

HIGH SCHOOL RAPID READER

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Distributors :
VIDYA BHAWAN
CHAURA RASTA, JAIPUR

Published by :
S. GARG & COMPANY
Publishers & Booksellers, Delhi.
Price :

PREFACE

This short collection of biography, fiction, science, exploration, travel, etc., has been specially edited for the High School student. The aim of this book is to help the student to learn the art of reading and to introduce him to the realm of literature, so that he may realize that in books also there is a vast and delightful world to explore.

All the pieces have been carefully chosen and graded (where necessary, adapted) to suit the needs of the High School student whose mental age is between fourteen and sixteen. It is hoped that all these pieces will appeal to his interests, and that they will increase his intellectual activity and widen his outlook.

The exercises given at the end of each chapter are calculated to test the intelligent grasp of the piece. Technical and grammatical questions have been avoided so that appreciation and enjoyment will remain uppermost in his mind.

We are much indebted to the learned authors whose works we have consulted and adapted for this book.

Editor.

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CHAPTER I

VASCO DA GAMA'S VOYAGE TO INDIA

Some people of Portugal wanted to find a new way to India, because they believed that it was a very rich country, and they wanted a share in its trade. They tried for a long time to find a way to India round the south end of Africa. They did not know how far they had to go to reach the south end of Africa. In order to find it out they sent ships along the west coast of Africa.

At first these ships went only a little way. Next time they went a little farther, and then farther still, until at last, in 1488, one ship's captain named Bartholomew Diaz sailed round the south end of Africa. The weather there was very stormy. At the point where the coast turns round was a big cape, and this he called the Cape of Storms. But when he returned home the King of Portugal said, "No, we will not call it that. It is the turning point which we have been trying to find for such a long time. We will call it the Cape of Good Hope because we hope that next time our ships will be able to sail round South Africa and go on to India."

The leader of the next voyage was Vasco da Gama. He sailed from Portugal with four ships in

the month of July, 1497. Instead of keeping near the coast they sailed out into the ocean right away from land. Day after day, week after week, and month after month, the ships sailed on, first to the south, then to the east, until at the beginning of November they came in sight of the African coast not far from the Cape of Good Hope. A few days later Vasco da Gama found a bay where the ships were sheltered from the wind, and there he stayed for a week while the sailors cleaned the ships and mended the sails.

At first the ships could not sail round the Cape of Good Hope, because the wind was against them. After a few days the wind changed, and they were able to get round. Then Vasco da Gama sailed eastwards, landing here and there along the coast until he reached Mombasa.

After leaving Mombasa, Vasco da Gama went a little farther along the coast, and then sailed away from Africa across the Indian Ocean to India. For three weeks he saw no land; but at last, in the month of May, he came to a big city called Calicut. The people of this city had light brown skins. Some of them had big beards and long hair. Others cut their hair short or had their heads shaved, except for a little tuft of hair on the top. They were naked down to the waist, but below their waists they wore

cotton clothes. The men had gold ear-rings, and the women had gold ornaments round their necks, bracelets on their arms, and rings set with jewels on their fingers.

Vasco da Gama sent two of his men to the King of Calicut to say that he had come by sea from Europe with a letter from the King of Portugal. The King of Calicut replied that Vasco da Gama was welcome, and he sent one of his officers to bring him to the place. So Vasco da Gama put on his best clothes and took with him thirteen of his men, and they set off. He rode in a kind of carrying-chair called *palki*. It was like a big box with window, and had a seat inside. One pole stuck out in front and another behind, and by these poles it was carried on men's shoulders.

All the way there were big crowds of people eager to see the strange white men. Mothers brought their children out of their houses to look at them, and when at last Vasco da Gama and his men came to the palace the crowd was so great that they had to force their way in.

The king was in a small Court, sitting on a couch covered with a cloth of green velvet. On top of the cloth was a mattress, and on this a cotton sheet, very white and fine. The couch had a sort of roof over it. Beside the king was a gold basin, so large

that a man could only just reach round it with his arms. In this basin were some fruits called arecanuts, of which Indian people are very fond. The king was chewing these nuts, together with betel leaves, and in his hand he had a big gold cup into which he used to spit out the blood-red juice.

Vasco da Gama's men were told to sit down on a stone bench and were given bananas and other fruits to eat. Vasco da Gama himself was asked to read his letter to the courtiers, and they would repeat it to the king; but he said that the letter was from one king to another, and he would not read it to any one else. So then the king went with him into another room and they had a friendly talk.

It was late at night when Vasco da Gama and his men left the palace. It was raining heavily and they had a long way to go to the house where they were to stay. When they arrived they found some of the Portuguese sailors, who had come from the ships with a bed for Vasco da Gama and with many other things which he had picked out as presents for the King of Calicut. There were twelve pieces of striped cloth, four scarlet hoods, six hats, four strings of coral, six washhand basins, a case of sugar, two casks of oil, and two of honey. Next day two of the king's officers came to look at these presents and made great fun of them.

"These things are not fit to offer to a king," they said. "You tell us that you have come from the King of Portugal, and yet you have nothing better than that to give ! The poorest merchant would not offer such a mean present. We cannot ask our king to look at these things. If you want to give him anything it ought to be in gold."

Vasco da Gama felt very sad when he heard this, because he had nothing better with him. He said that as they would not allow him to send the presents to the palace, he would go to see the king and then return to his ships. Next morning he went to the palace, and was kept waiting four hours before the king would see him. The king did not like it because he had not received a present, but he was a little more friendly when Vasco da Gama gave him the letter which he had brought from the King of Portugal. He told Vasco da Gama that he could go back to his ships, bring on shore such goods as he had, and sell them to the king's people.

Next day Vasco da Gama and his men went back to their ships and brought their goods on to the shore.

No one at Calicut would buy the goods, except at very low prices, and after a time Vasco da Gama thought he had better go back to Portugal. He sent a messenger to the king to say that he was

leaving. When the king heard this, he sent the messenger back to Vasco da Gama with a letter for the King of Portugal, saying that Calicut was rich in cinnamon, cloves, ginger, pepper, and precious stones, and that the merchants would exchange these things for gold, silver, corals and scarlet cloth.

Now Vasco da Gama sailed away to Portugal.

By this time it was the end of August, and Vasco da Gama had been away from Portugal for more than a year. It took him another year to get home and when he arrived, there was great joy in Portugal. He had done what the sailors of Portugal had been trying to do for so long; he had found a way to India by sea, and the King of Portugal rewarded him with money and honours. It was a great discovery that he had made, and afterwards the Portuguese did a big trade with Africa and India.

Exercises

1. Why did the people of Portugal want to find a new way to India ?
2. How did the Cape of Good Hope get its name ?
3. When did Vasco da Gama set sail for India ?
4. When did Vasco da Gama reach India ?
5. What did Vasco da Gama see at Calicut ?
6. What things did Vasco da Gama offer to the king of Calicut ?

CHAPTER II

DAVID LIVINGSTONE

The most honoured name in the story of the exploration of Africa is that of David Livingstone. He was famous not only for the great discoveries which he made, but also for his noble character and his efforts to help the natives and to stop the slave trade.

Livingstone arrived in Africa in 1841. The natives soon began to love him ; he learned their language and understood their ways. Some natives who had come from the Kalahari Desert told Livingstone that in the desert was a great lake called Nagami. They also said that beyond the desert was a rich country where many people lived, and where there were so many rivers that they could not count them. Livingstone, with two English sportsmen, Oswell and Murray, started in June, 1849, to find Lake Nagami. They had native guides, and it took them two months to cross the desert and visit the lake.

Livingstone wanted to visit a great chief who lived farther north, but he was not able to do so on his first journey across the Kalahari. Next year he

went again to Nagami, taking his wife and children with him. They travelled in an ox-waggon, while Livingstone had a horse. At Nagami the children caught fever, and once more he had to turn back. But Livingstone was a man who never gave up, so a third time he started—this time with Oswell again, as well as his wife and children.

Instead of going to Nagami, they went more directly north towards the country of Sebituane, a chief who had conquered a large and well-watered country in the middle of Africa. After many difficulties they reached the Chobe River, where Sebituane's people lived, and the chief himself made a journey of 100 miles to meet Livingstone, for he had long wanted to see the "great doctor" who was so good a friend of the natives. Soon afterwards Sebituane fell ill and died.

Travelling along the Chobe, Livingstone and Oswell came at the end of June, 1851, to a very big river, the Zambezi. He arrived in the dry season, when the river was at its lowest, yet even then it was many hundreds of yards wide.

Much of the country between the Chobe and Zambezi was marshy and unhealthy, and Livingstone determined to send his family home, so that he might be freer to carry on his explorations and try to help the natives. He took Mrs. Livingstone

and the children all the way to Cape Town, and having seen them off in a ship for England, started on his long journey back to Central Africa. After travelling for about 1,500 miles he reached the Chobe again in May, 1853, and was welcomed by a new chief, named Sekeletu. This new chief, who lived at a town called Linyanti, was a son of the chief who had died during Livingstone's former visit. Like his father he was very friendly, and when Livingstone continued his journey to the Zambezi, Sekeletu, and his men went with him. The party went a long way up to the Zambezi, where no white man had been before.

It was a beautiful river, in places a mile wide, but the country was unhealthy, and on his return Livingstone decided to make a big journey westwards to the Atlantic Ocean. He left Linyanti in November, 1853, and with him went thirty-five natives, who were eager to open up a trade route between their country and the sea coast. For three months the party travelled, sometimes through dense forest, sometimes through flooded land, sometimes over open country covered with long grass; and they crossed many rivers.

At length, in February, 1854, Livingstone reached the sea at a Portuguese town called Loanda.

In all his long journeys Livingstone had not found a place where he would like to settle. He never did ; he always wanted to move on to new places. That is why he has been called the *Pathfinder*. After a while he started from Loanda to go back into the heart of Africa. This time he went very slowly, and it was not till September, 1855, that he reached Linyanti again. Ten weeks later he began another journey. This time he decided to go east, down the Zambezi.

Less than a week after he started, he saw one of the greatest waterfalls in the world. These wonderful falls Livingstone named the Victoria Falls, in honour of Queen Victoria. Now a railway bridge has been built across the gorge just below the falls, and a few miles above the falls a town has been built, which is called Livingstone.

Lower down the river Livingstone found that the Zambezi again became navigable, and in time he and his men came to a part of the river where the Portuguese had little towns on the banks.

At last, in March, 1856, Livingstone reached the sea again at a Portuguese village. He had done what no other white man had done—travelled right across Africa from the Atlantic Ocean to the Indian Ocean. Afterwards, for the first time for

sixteen years, Livingstone came to England, but he had been home little more than a year before he started out again. This time he went as British Consul in Eastern and Central Africa. With him were his brother Charles, a doctor named Kirk, and two or three other white men. They went to the mouth of the Zambezi River, which was reached in May, 1858. Livingstone made many journeys up and down the Zambezi, and he visited again the Victoria Falls and the chief Sekeletu.

The party stayed in Africa for six years, and during this time Livingstone explored the Shire, a large river which joins the Zambezi about 100 miles from its mouth. He found that it flowed out of Nyasa, a great lake of which white men had heard but which they had never explored. It was in September, 1859, that Livingstone and Kirk first saw the waters of this lake, which is 350 miles long, from 15 to 50 miles wide, very deep, and with high mountains on each side. Much of the country through which the Shire flows is hilly, fertile, and healthy, and when Livingstone sent home news about it, missionaries—and afterwards traders—went to settle there. Now Nyasaland is a flourishing country.

The first missionaries went out in 1861. Livingstone met them and took them up the Shire. When

they came to the hills, they found that some native tribes were making war to capture slaves ; that Arabs coming from the north were also hunting slaves ; and that agents of the Portuguese were buying slaves. The Portuguese slave dealers tried to keep away from Livingstone, for they were afraid of him. They knew that he would write home about this horrible trade, which was ruining a beautiful land, and they feared that it would be stopped and that they would lose their profits.

One day, as Livingstone was marching along, he saw a party of more than eighty men, women, and children, all slaves and all heavily bound. Black drivers, armed with guns were guarding the slaves. But as soon as they caught sight of Livingstone and his party they ran away into the forest.

The poor slaves knelt down before the white men and clapped their hands for joy. Livingstone's men at once cut the chains which bound the men, women and children, some of whom were not five years old. The slaves told the explorers that on the previous day two women had been shot dead for trying to break their chains, and one woman's baby was killed, because she could not carry both it and her load. A man, too, had been killed with an axe, because he was so worn out that he could not

march any farther. No wonder that Livingstone was angry, but he was a very wise man and saw that the best way to stop slave-trading was to teach the people that they would be better off by growing cotton and sugar and other things than by trading in slaves.

He went back to the hot, damp, and unhealthy valley of the Zambezi, where at the beginning of 1862 he met his wife and some other ladies, who had come out as missionaries. Not long afterwards Mrs. Livingstone fell ill with fever and died.

Now the British Government asked him to return home.

Livingstone reached England in the summer of 1864. In 1866 he went back to Africa, eager to make new journeys into the unknown heart of the continent, and help the natives. This time he started from a little port north of the Zambezi. He travelled to the south end of Lake Nyasa and from there went up its west side, through the fine healthy country he had seen on his previous journey. Then he came to a river called the Chambezi, which flowed neither into Lake Nyasa nor to the Zambezi but away to the west. Where did it go? That was the question which Livingstone set himself to answer. For three years he travelled up and down

the country, going both west and north, and by the beginning of 1869 he discovered that the Chambezi River flowed into a large marsh and near this marsh was a big lake, called Bangweolo. From the opposite side of the marsh flowed a big river, which went north into another lake, called Mweru. The river flowed out of this lake, and joined by other rivers, it still went north and was called the Lualaba.

On this journey Livingstone had no white men with him and most of his native followers ran away, so that after a time only five or six men were left. These few, however, were very faithful. Often he saw things that made him very sad. All through the country between the Lualaba and Lakes Nyasa and Tanganyika parties of Arabs were going about capturing the natives as slaves. Livingstone met many of these Arabs, but though they knew he hated their ways they were always very kind to him.

One day at a town called Nyangwe, some Arab traders came suddenly into the market place. A native had cheated them, they said, and they began firing on the crowd, shooting down hundreds of men, women and children. It was a horrible sight, and Livingstone wrote in his diary that he

was in hell. The natives could do nothing then, but when Livingstone was on his way back to Ujiji and marching through a forest they attacked him. It was the only time the natives ever attacked Livingstone, and then it was by mistake, for they thought he was one of the Arab slavers. The natives hid in the dense forest ; and as Livingstone and his men passed along they shot poisoned arrows and threw spears at the party. This went on for five hours, but fortunately Livingstone was not hit and only one of his men was wounded.

Livingstone reached Ujiji again in October, 1871, very ill and worn out. He had been away from England for six years, travelling in an unknown country from which he could not send letters home and the people both in England and in America did not know what had become of him. About this time a young man, named Stanley, had been sent out to find Livingstone, and less than a week after Livingstone returned to Ujiji, Stanley reached that place from Zanzibar, bringing with him medicines and supplies. The travellers met in the town, and Stanley, taking off his hat, said, "I think you are Dr. Livingstone?"

Livingstone was very glad to see a white man again. Together Livingstone and Stanley explored

the north end of Lake Tánganyika, and found that like Lake Nyasa, it had no connection with the Nile. This made Livingstone believe that the Lualaba might be the Nile. After spending five months with Livingstone Stanley went back to Zanzibar.

In August, 1872, Livingstone started off again, along the east side of Tanganyika and then to Lake Bangweolo, hoping to find the source of the river which he thought might be the Nile. Much of the country round Bāngweolo is very hot and unhealthy, and Livingstone became so ill that his men had to carry him. At last he could go no farther. He slept in a little tent by himself, and one morning—it was May 1st, 1873—when his men went into the tent they found him kneeling by his bed. He was dead.

Exercises

1. When did Livingstone go to Africa for the first time ?
2. Why did he go there ?
3. Why did the people of Africa love and honour him ?
4. Why has he been called the Path-finder ?
5. How did the Arabs capture slaves and how did they treat them ?
6. Why were the Arabs afraid of Livingstone ?
7. What parts of Africa did Livingstone explore ?
8. Which new lakes, rivers and falls did he discover ?
9. How and when did he die ?

CHAPTER III

LOUIS PASTEUR

Louis Pasteur was born in a humble home. His father was a tanner of leather. Louis and his father had a great love for each other, and the father, as long as he lived, understood and liked the work which his son did. The two often studied together in the evenings, for it was the desire of Pasteur's father that his only son should become a great scholar.

How proud Pasteur's father was, when, after many years of struggle and hard work, Louis became a graduate from a great college in Paris.

The rest of Louis Pasteur's life was devoted to scientific work. His discoveries put an end to much ignorance and superstition.

At the time Pasteur lived, many people believed that if a horsehair were put into water it would turn into a snake. They believed also that caterpillars grew from leaves, and that bees came from the body of a dead bull. Other strange beliefs were that frogs and fishes grew from mud, and that mice could be produced by putting some dirty linen into a tin can with a few grains of wheat.

Pasteur proved that these things were not true. He showed that many plants and animals develop from eggs, or from other forms which are too small for our eyes to see without a microscope.

Pasteur liked to use his knowledge of science to help his countrymen.

The first important industry which Pasteur helped was the wine industry. The makers of wine had begun to lose much money because wines sometimes went bad, and the wine-makers could not discover the cause of the trouble. Pasteur found that the diseases which were attacking the wines were caused by living organisms called bacteria. After much study, he discovered that heating the wines kept them from spoiling. This was because the heat destroyed the bacteria. But the makers of wine were at first unwilling to heat their wines, because they thought that this would spoil the flavour. In order to find out whether or not heating did spoil the flavour of wine, the following experiment was tried.

Some wine was placed on a ship. Half of it was heated and half was not heated. The ship sailed for ten months and at the end of that time the wine was examined. The wine which had been heated had a fine flavour, but that which had not been heated was spoilt.

While Pasteur was still working on the diseases of wine he was asked to go to southern France to study a disease which was destroying the silkworms there. The worms were dying in such numbers that the silk industry of France was in danger of being wiped out. Pasteur worked for six years before he found a way to protect the silkworms from the diseases which were attacking them.

A third industry which Pasteur helped was the agricultural industry. Pasteur discovered how to vaccinate animals to protect them from certain diseases. When he said that he could save cattle and sheep from a very dangerous disease called *anthrax*, by vaccinating them, many people laughed at him. He offered to prove the truth of his discovery by an experiment.

Fifty healthy sheep were given to him for the experiment. A crowd of doctors, farmers, scientists and newspaper men came to see the test. Many of these people expected the experiment to be a complete failure.

Twenty-five of the sheep were vaccinated. The other twenty-five were *not* vaccinated. Some days later the fifty sheep were given the germs which cause anthrax. A month later the crowd again gathered to learn the results of the experiment.

When Pasteur arrived, they broke into a wild cheer. Twenty-two of the unvaccinated sheep were dead; the other three were dying. But all the vaccinated sheep were alive.

It was Pasteur who discovered that diseases are caused by living germs. People had believed that infectious diseases were caused by evil spirits, by spots on the sun, or by vapours that rose from the earth.

The greatest work which Pasteur did was to discover a method of saving the lives of people who had been bitten by "mad" dogs and by other "mad" animals. The disease which results from the bite of a "mad" dog is called hydrophobia or rabies.

Before Pasteur discovered a way to check rabies, men had been so afraid of this disease that they ran away from those who were ill with it, leaving them to die without care.

Pasteur discovered that the germs of rabies were found in the saliva of the infected animal. He found a way to vaccinate people who had been bitten by a "mad" or rabid animal, so that rabies did not develop. The treatment was first used on animals and was successful, but Pasteur hesitated to use it on human beings.

While he was making more sure of his methods, a chance came to test the value of the cure. A little nine-year-old boy who had been bitten by a "mad" dog was brought by his mother to Pasteur's laboratory. Two days before, the boy, while on his way to school, had been attacked by a "mad" dog, thrown to the ground, and severely bitten about the hands and face. The case was a particularly dangerous one, because it was so long since the boy had been bitten.

The treatment which Pasteur gave the boy extended over a number of days. Everyone waited anxiously for the result. There was great rejoicing when the boy did not develop rabies. The treatment had been successful.

A short time afterwards another boy was brought to Pasteur for treatment. This boy was a shepherd who had been bitten while trying to protect some younger children from a "mad" dog. Although the boy had been bitten six days before the treatment was begun; he was successfully treated.

Another way in which Pasteur served his fellow-men was by the discovery of a method of heating milk to kill the dangerous germs in it. Milk which has been treated in this way is called "pasteurized" milk. By this discovery Pasteur helped to save the

lives of many babies.

In Paris is the famous Pasteur Institute. This beautiful building was built for Pasteur while he was still alive. The money for the building was given by people from all over the world. Kings and emperors as well as poor people gave money for it. This Institute makes experiments to help to discover ways of making the world a more healthy place to live in. It has been called "the world's greatest life-saving institute."

On Pasteur's seventieth birthday a great celebration was held in Paris. Doctors, scientists, and statesmen from England, Russia, Germany, Italy, the United States, and many other countries of the world came to honour Pasteur; even the President of the French Republic was there.

Three years later Pasteur died. He was buried in a beautiful chapel near the Pasteur Institute.

Exercises

1. Give a brief account of Louis Pasteur's boyhood and education.
2. How did Pasteur lessen ignorance and superstition?
3. Give a brief account of Pasteur's services to the industries of France.
4. What good did Pasteur do to mankind?
5. What was Pasteur's greatest discovery?
6. What do you know of Pasteur Institute?

CHAPTER IV

THOMAS ALVA EDISON

Thomas Alva Edison, one of the greatest inventors of the nineteenth and twentieth centuries, was born at Milan, Ohio, in 1847. When he was seven years old, his parents moved to Port Huron, Michigan.

As a child Thomas was so unlike other children that he was called "queer". He asked questions till older people were tired, and even then he did not believe what was told him, but wanted to find out for himself. His teachers lost patience with him, and at last his mother, who had been a school mistress, undertook to teach him herself.

When he was twelve years old, Thomas made up his mind to become a newsboy on the train between Port Huron and Detroit. His mother did not wish him to do so, but he had his way. He made eight to ten dollars a day by selling papers. Sometimes he had special news telegraphed ahead, and put on the notice-boards at the stations; this made the people eager to buy his paper when the train arrived.

In the afternoon he had time to spare between trains, and this he spent in reading books about science. He was much interested in electricity, and, with the help of a friend, he managed to fix a telegraph line between their homes. After a time it was carried off by an old cow, but not before the boys had learned something of telegraphy.

It was Edison's love for experiments that ended his career as a newsboy. One day, while he was performing an experiment in the guard's van, he set fire to it. An angry conductor threw him off the train at the next station, after having boxed his ears so sharply that he always remained somewhat deaf. Edison then became a telegraph operator, and got a job at the Gold Reporting Company. Three days later there was trouble in the office. The telegraph instrument had broken down. Soon clerks from other offices came there to say they could get no replies to their calls. The chief operator was so worried that he could do nothing, but Edison, who guessed what was wrong with the instrument, offered to put it right. His offer was gladly accepted, and in two hours the wires were working again. The newcomer was called into the chief's office, and offered charge of all the instruments in the building at a salary of 300 dollars a month.

Edison still worked at his experiments, and invented a number of things that were very useful to his employers. A few years later, he was asked by the head of the company to name a price for the whole of his inventions. At first he thought of saying, "5,000 dollars"; but this seemed such a large sum that he was afraid. He was just going to say, "3,000 dollars," when the chief asked, "How would 40,000 dollars do?"

He took the cheque and left the office quite bewildered at his good fortune. This money was of great help to him in his work. One could fill a whole book with the story of Edison's inventions, for he is said to have taken out more than fifteen hundred patents. You shall hear about two of them.

By the middle of the nineteenth century men had found electricity very useful in many ways, but it could not be used for lighting ordinary houses, because no suitable lamp had been invented, and no means of measuring the quantity of electricity used had been thought of. Edison supplied both these needs.

The arc lamp was at that time the only kind of electric lamp in use. Sir Humphry Davy made an electric lamp in 1808, but found that the wires were

quickly burnt up. After that a substance was found that would conduct electricity well, and stand the heat. This was a very hard black substance found at the bottom of the crucibles used for making gas, and so called "gas carbon." It was cut into small rods, and the flame was allowed to play between the ends of two such rods. An electric arc lamp is the most brilliant light that can be made, but it is too brilliant for general use.

Edison wanted to find a lamp that could be used in an ordinary room. He knew that when an electric current is sent through a wire, the wire becomes red hot, or even white hot, and therefore gives a light less glaring than the arc lamp. He tried burning wires in air, but they soon gave out. Even when he burnt them in a globe that had been emptied of air, they did not last long.

Then he began to try experiments with carbon, but soon found that it could not be drawn out into a fine wire. His next plan was to treat thread with great heat until it was changed into carbon. He tried threads of cotton, silk, flax, and bamboo, and found that bamboo was the strongest, but he was not yet satisfied.

While Edison was working in America, another inventor named Joseph Swan was trying to do the same thing in England ; and both happened to make

a good thread at the same time. Edison made a thread from lamp black and tar, while Swan produced one by soaking a carbon thread in sulphuric acid. Both patented their inventions, and for a time they were rivals, but in the end they became friends, and worked together. The lamps they made bore the trade-name "Ediswan," which is a combination of their two names.

Later on, they made a better thread from a pasty substance called cellulose, a mixture of cotton, wool and chloride of zinc. This can be forced by pressure through a very small hole, and so drawn out into a fine thread. The thread is then enclosed in a glass globe where not a trace of air can get near it. If the smallest quantity of air were to get in contact with the filament while it is glowing, it would burn up at once. The most difficult thing is to mount the filament in the globe and to conduct a current through it from the outside.

This is done by melting thin platinum wire into the glass; for platinum is the only wire which will not break the glass. When platinum is heated, it expands in the same way and to the same extent as the glass and therefore does not break away from it. The filament is joined to the platinum wires by a special cement. After all this has been done, the air is

pumped out, and the globe is melted off the pump at the lower ends where a little point of glass is seen.

Edison spent 100,000 dollars on his experiments before he made a really successful lamp. For three years he sold the lamps at less than they cost him to make, but in 1880 he and his partner Mr. Swan were able to make and sell the lamp at a profit, and the great demand made up for their former losses.

Edison followed up this success by inventions for supplying electric current to buildings, and by making meters for measuring the quantity of electricity used. From this time electric lighting became possible for ordinary houses.

About the same time that Edison was experimenting with his electric lamp, he very much amused the men in his workshop by telling them that he meant to make a talking machine that would reproduce words spoken, and not only reproduce them, but enable them to be stored for use again and again when required.

Although old people laughed at the idea, and said it could not be done, Edison did it. At first he tried round plates or discs, such as are used today in our gramophones, but at that time these were not successful. Then he used a cylinder that had been wrapped in tin foil. As a person sang

or spoke into the machine, the voice caused movements or vibrations in the air. The vibrations moved a marker in the machine, and caused it to make little dents on the tin foil. In this way the first records of the human voice were made.

The cylinder or record was placed in a machine called a phonograph. The machine turned the cylinder round, and the listener, having placed the ear-pieces of two long tubes in his ears, heard the song or speech repeated by the "talking machine."

When a new idea has thus been got into working order, it is easy to improve on it. Edison himself made many improvements during the next ten years and at last succeeded in making wax discs do the work instead of the unsatisfactory tin cylinder. During this time another inventor, Emil Berliner, a German living in America, patented a similar instrument called the gramophone.

Soon the tubes and ear-pieces were replaced by large horns, so that everyone in the room might be able to listen at the same time ; and, later, the horns were done away with for the improved machines made them no longer necessary. Portable gramophones are now very popular, as they can easily be carried from place to place.

Edison had been among the early experimenters

in photography. In 1863, he was exhibiting a kind of peep show in Chicago.

Looking into, one saw a series of small photographs passing so rapidly that people seemed to be moving. He had already tried to invent a photographic film, but the Kodak Company brought out one before his was quite ready.

He was greatly interested in the progress of the cinema. In 1913, he gave the first display of "talking pictures" by using the phonograph together with the cinematograph. Shortly after this, the First World War began, and the inventor turned his attention to the manufacture of chemicals and other things needed when the United States entered the War.

Few other inventors, if any, have been engaged in so many different kinds of work as Edison, or have lived to see their inventions in such general use in all parts of the world.

Exercises

1. Give a list of the important inventions made by Edison.
2. Why was Edison withdrawn from school and taught at home by his mother?
3. How did his career as a newsboy end?
4. How did he get a chance to show his ability?

5. What is an Ediswan lamp ?
6. How did Edison invent the phonograph ?
7. How was this developed into the gramophone ?
8. When did Edison give the first display of "talking Pictures ?"

CHAPTER V

THE STORY OF THE SEWING MACHINE

Every girl and every boy knows that the sewing machine is one of the most useful things in the home. This clever aid to needlework is the outcome of many inventions and improvements, and many inventors were working at the idea almost at the same time, but each unknown to the others.

It was clear, no doubt, to many, that a machine that would do away with the slow, tiresome method of sewing by hand would be a useful thing, but it was a long time before any plan for such a machine was thought out. Those who first worked at the idea, failed because they tried to make the movements of the machine imitate the movements of the needle-woman, and this plan did not work.

The first inventor to try methods for easier sewing was one Charles F. Weisenthal, who, in 1776 made a double-pointed needle with an eye in the middle.

In 1790, Thomas Saint took out a patent in England for a machine for stitching, or sewing. This machine was really intended for leatherwork, and it

was fitted with an awl such as a shoemaker uses. This awl pierced a hole in the leather ; then a spindle and projection laid the thread over the hole, and a forked needle pressed a loop of thread through it. The loop was caught on the underside, and the work moved on one stitch. The next stitch was made in the same way, but it was within the first stitch, which was thrown off the hook as the next stitch was formed, thus making a kind of chain-stitch. Saint missed the one thing that would have made his invention a success—he did not think of making an eye in the point of his needle.

Forty years later (1830), a poor French tailor named Thimonnier made a machine fitted with a hooked needle which brought up a loop of thread and carried it through a loop already made, thus forming a chain on the surface of the cloth. His machine was clumsy, being made almost entirely of wood, but it was workable ; and, in 1841, as many as eighty of these machines were being used in a Paris factory for making army clothing. Then, as in the case of the spinning and weaving machines the invention aroused jealous anger. The mob determined to destroy this new “enemy” and wrecked the factory, destroyed the sewing machines and nearly murdered the inventor.

Thimonnier, however, did not lose heart. He

went on with his work, improved his invention, and made a machine entirely of metal. Then, in 1848, came "the year of Revolutions"; France was in confusion, and no one had any thought to spare for sewing machines, and the inventor died a few years later without reaping any reward from his work.

The man to bring the invention to a successful completion was Elias Howe, a native of Spencer, Massachusetts.

Howe was employed in the works of a cotton-machine maker. His wages were very small, hardly enough to keep his family fed and clothed, yet after a long hard day's labour, he would come home and work all the evening in a dark room, making model machines. He knew nothing of the attempts of other inventors, but depended on his own ideas and general knowledge of machinery to help him. He felt sure that a sewing machine was one of the things badly needed in the world, and he hoped, if successful, to make a fortune by his invention. So he struggled on year after year, often cold and hungry, but thinking of his models all day, and dreaming of them at night.

Like other inventors, he tried to work the machine by the same method as sewing by hand, having the eye at the heel of the needle, but it was

impossible. Night after night he toiled for three years, but without success.

One night, tired out and thoroughly disappointed, he went to bed to dream of sewing machines. He dreamt that he was making a machine for a savage king, who gave him twenty-four hours to finish it and make it work. If he failed, he was to die. In his dream he did fail, and was led out to execution by warriors carrying spears. The spears were *pierced through the heads*.

Howe awoke with a start. He had a new idea for his machine needle—to pierce it through the point. He sprang out of bed, rushed to his small laboratory, pierced a needle through the point, and ran a piece of thread through. It sewed! He had found the secret at last!

But, when he had found out the secret, Howe was too poor to make much use of it. He managed to take out a patent (1846), but failed to interest manufacturers in his machine. He sold the English rights to a rich tailor, named, Thomas, who took out a patent in his own name, and persuaded Howe to come to England to make certain changes that would make the machine more useful. Howe went to England, but was bitterly disappointed to find that Thomas would pay him only a weekly wage for improving his own machine.

Then news reached Howe that his wife was dying of consumption, brought on by poverty and hardship, while manufacturers were copying his machine, and making money out of it. He borrowed money to pay his journey to America, and pawned his American rights in England.

His wife died, but Howe fought hard for his rights with men who were making machines on his model.

The most successful of the sewing machine manufacturers was Isaac Merritt Singer, who had taken out a patent in 1851. It was ten years from the time of completing his invention before Howe won any success. Then the tide of his fortune turned at last. Howe won the victory over the rival machine makers, and with thirteen years of his patent to run, he was to be paid a sum of money for every machine not of his own manufacture. In the thirteen years before his patent expired, Howe received, in this way, from £35,000 to £40,000 a year.

Howe's first sewing machine is still in existence. It is a clumsy thing, but still a wonderful machine. Singer's original machine is much neater, but it is easier to improve on an idea that has been worked out, than to put it in shape first of all.

Many inventors have since added to the usefulness of the sewing machine. Its general working

has been improved, and it has been adapted to special uses. Some machines are capable of doing all kinds of embroidery and ornamental stitching; others will sew button-holes at the rate of eight or ten a minute; while others again will sew on buttons. Some machines have two or more needles fitted for making parallel rows of stitching. Other forms of machine are made for the use of glove-makers, umbrella-makers, and shoe-makers.

Electricity has now been brought into use to work sewing machines, and this has proved especially useful in working on hard materials such as carpets.

Exercises

- ✓ 1. Why did the early inventors fail to make a sewing machine?
2. What was the one thing that Thomas Saint missed?
3. Why did the mob destroy the sewing machines invented by Thimonnier?
4. How did Elias Howe get a new idea for his machine needle?
5. Who was the most successful manufacturer of sewing machines?
6. What do you know of recent improvements in sewing machines?

CHAPTER VI

THE WONDERS OF COAL-TAR

Do you know the name of one material from which we get dainty perfumes and deadly explosives, fountain-pens and flavouring extracts, gramophone records and paving materials ?

This same material probably perfumes the soap with which you wash your hands. From it are made the moth balls with which you pack away your winter clothing. Even the ink with which you write may be made from it. This useful material is obtained from something which almost everyone has seen. It is made from coal. It is called coal-tar.

Coal-tar is a black, sticky substance. For a long time it was regarded as a nuisance by the makers of coke and of gas. The oily, smelly mass clogged up the pipes, so the gas-makers and coke-makers washed it out and got rid of it as best as they could. Some of it was sold for roofing ; most of it was wasted.

But this evil-smelling "nuisance" has been found to be one of the most useful things in the world. From it the chemist seems able to make almost

anything he wishes—from medicines to explosives, from dyes to disinfectants. Not all these products are contained in the coal tar itself. Only about a dozen simple or primary products come from coal-tar, but from these the chemist is able to make thousands of new substances.

Some of the most important things made from coal-tar are dyes. A whole rainbow of colours is made from coal-tar. More than nine hundred different coal-tar dyes are in common use. These dyes not only give fine colours to our stockings, dresses, ribbons and hats, but they also give the pleasing colours to many of our sweets, and drinks.

Some of the coal-tar dyes serve a very interesting purpose besides that of giving colour. "Brilliant green," "crystal violet," "Victoria blue" and other dyes are used to heal wounds. One permanent yellow dye is used as medicine to cover burnt skin.

Many important medicines are made from coal-tar. Carbolic acid is made from coal-tar. One medicine which the dentist uses to deaden the nerves in the gum when he pulls a tooth is made from coal-tar.

Don't you think it strange that the substance which gives us medicines for healing wounds should

also give us the explosives which cause many of these wounds ? Coal-tar is used in making both an acid with which bombs are filled and a powerful explosive called T.N.T.

This same coal-tar furnishes us with flavouring extracts. It gives us an oil which scents much of our toilet soap ; it gives us many other cheap perfumes. Saccharin, which is about three hundred times as sweet as cane-sugar, is derived from coal-tar.

One of the newest things made from coal-tar is "bakelite". It is a resin-like material which can be easily moulded and machine stamped. After it is heated, it becomes very hard and as smooth as glass. It is waterproof and is not affected by heat, water, gases, acids, or electricity. These qualities make bakelite useful in building electrical machinery.

Wood, paper, cardboard, cloth, and saw-dust are soaked in solutions of bakelite and changed by heat and pressure into tough and hard materials.

By a different process bakelite may be made into a material coloured like amber, but stronger and more brilliant than amber. It is used in the making of such articles as beads, umbrella handles and fountain-pens.

Another coal-tar product is used for making

gramophone records, buttons and eyeglass frames. Thousands of other things are made from coal-tar.

Exercises

1. What is coal-tar made from ?
2. Why did makers of coke regard it as a nuisance ?
3. What is T. N. T. and from what substance is it made ?
4. What is saccharin ?
5. Give a list of fifty things, made from coal-tar which you have seen or used.

CHAPTER VII

A JUNGLE TRAIL

Some years ago a young New York City couple began to think about their two-weeks' summer vacation. They were fed up with their small house in a crowded street. They dreamt of dark-blue mountains and deep forests of pine trees, of a lake in the woods they would have all to themselves. They had no car and very little money, and yet they had the vacation of their dreams. They spent it walking and camping along the Appalachian Trail, which winds down the long ranges of the Appalachians from Mt. Katahdin in Maine to Mt. Oglethorpe in Georgia.

Two hours on the train brought the young couple to a New England village at the foot of a mountain range. They put their rucksacks on their backs and started up a country road. In ten minutes they turned off on a foot trail--the forest closed in around them.

They walked slowly at first : the trail led uphill and John's pack weighed 30 pounds, Kate's half as much. Two days later they hardly felt the

weight. Gradually the valley floor fell away, new ranges came in sight, the horizon moved far back.

On the crest of the ridge they picked up the Trail—marked by chipping the bark of trees—and turned north. Sometimes the trail was deep in the woods. Sometimes it crossed bare rock ledges with views far out over the hills. Late in the afternoon they took a side trail down a few hundred feet to a small clearing or open space in thick jungle. There was an open shelter built of logs. A spring flowed from under a rock. They spread their blankets on the bunks they found there, then began to make camp. A simple campfire meal tasted like a feast.

After supper they watched the twilight fade into darkness. The little stream tinkled away into the woods. A red fox came to the edge of the clearing, caught sight of them and ran away. The campfire sank into a bed of glowing coals, the stars came out one by one. They rolled up in their blankets. The tinkle of the stream grew fainter.

In two weeks John and Kate covered about 50 miles of the Trail. They could easily have made more: by the fourth day they were in good training. But why push themselves? If they liked the location of a shelter they might spend time there idly all day or explore nearby woods and cliffs. Once they found the little lake they had dreamt

about and spent the whole day swimming and sun-bathing there.

Sometimes the Trail dropped down into the valley, passing near a village where they replenished their food supply at the village shop. But most of the time they were far from civilization ; in fact, during one three-day stretch they didn't see a single sign of human habitation.

One day the Trail climbed up and up to a bleak, wild region. The tree line was below ; here were only boulders and low bushes. Little piles of stones marked the Trail. When a cloud closed down over them like a soft gray blanket they felt uneasy for a moment, a hint of the terror that comes to those who are lost in the jungle. Kate would stand by one pile of stones while John went on to find the next. Sometimes he would be out of sight in the mist before he found it. He would call to her and she would go forward to join him. They were relieved but half sorry when the Trail dipped down again to the familiar shelter of the forest.

Twice they shared a shelter with another couple. They did not mind. People who go afoot in the jungle nearly always like each other.

When John and Kate got back to New York, their vacation had cost them less than if they had stayed at home. They had not spent a penny except

on food and train fare. This summer they are going back to the Trail, to the place where they left off last year.

More than 70 million people live within half a day's motor ride of the Appalachian Trail. Yet uninhabited forest stretches for miles on either side of nearly all its winding 2024 miles.

The first 100 miles south from Mt. Katahdin is no place for a beginner. If he were to lose the marks on the trees and make the mistake of travelling north, he would have to go 200 miles through the woods to reach the nearest road. Across the New Hampshire line, in the white Mountains, the Trail climbs to one of its most beautiful stretches. It keeps you above tree line for nearly two days.

Nobody pays to use the Appalachian Trail, and nobody gets paid for the vast work involved in maintaining it. It was made by people who loved the wilderness and wanted others to enjoy it.

In 1921 Benton MacKaye, a Massachusetts forester and dreamer, got the idea of a continuous foot trail from Maine to Georgia. He tried to promote it, others joined him, and after some years, representatives of several walking and climbing clubs agreed to combine all the trails they maintained. They formed the Appalachian Trail

Conference, which still runs the Trail. In the end about half the course was on public land. For the other half, private owners permitted the Trail to cross their land. It was first opened from end to end in 1937. From the beginning anyone was welcome.

A lot of labour is involved in its maintenance : blazes must be renewed ; trees that fall across it must be chopped away ; bush and weeds must be cut. Some of this work is done by public authorities. The rest is done, mostly on week-end expeditions, by the members of the clubs.

Along much of the Trail there are permanent shelters, set about eight miles apart. Their use is free ; the only requirement is that the visitor leave the shelter clean and that he leave as much firewood cut as he found on arrival. Many travellers prefer to carry light tents. With lodging and food on your back, you can stop and set up housekeeping at any place you happen to like.

Some travellers set themselves the goal of covering the whole Trail in successive seasons, going back each year to start at the point where they left off the year before. So far seven parties have done it. In the summer of 1948, Earl Shaffer of York succeeded in doing the Trail in one continuous journey. It took him from April 4 to August 5,

averaging 17 miles a day.

Almost any moderately healthy man, woman or child can enjoy a pleasant vacation along the Trail. No great knowledge of woodcraft is necessary, especially in the sections where shelters are available.

You can now get lightweight clothes to resist rain, wind and cold ; featherweight cooking utensils ; all the immediate necessities of life in a small, light pack. A good tent for two people weighs five pounds, a sleeping bag three and a half. It is possible to carry all you need for three or four days, including food, in a 25-pound pack.

Exercises

1. What did the husband and wife do to enjoy their vacation ?
2. How far did they travel in two weeks ?
3. Why did they not travel faster ?
4. What did the trip cost them ?
5. Who made the trail and why did they make it ?

CHAPTER VIII

THE MARCH OF AN ARMY OF ANTS

One morning at dawn, we suddenly saw hundreds of thrushes that eat ants, flutter excitedly about, flying to the ground, then back to the trees. We knew what that meant, and so did all the inhabitants of the jungle. Insects, snakes, even larger animals began to run away. Some climbed high into the trees, others dug deep into the earth.

An army of ants was on the march ! During the two rainy seasons every year, these insects march by the hundreds of thousands to raid the village in which we live.

We dismounted from our mules and searched the nearby jungle. Under a huge log we found one of their columns, not yet aroused for their day's march, their long legs interlocked to form a ball nearly a yard in diameter. These shiny black ants were almost an inch long, with big pincer jaws that could tear their victims to pieces.

At daylight the ball began to move. Like magic the solid mass melted away and a crawling army covered the ground. Officers gave commands by waving their feelers. The army moved forward in a

regular column 100 feet long. Guards, jaws outstretched and feelers waving, patrolled the flanks.

The thrushes, following, watched the ants from the trees, waiting for a chance to catch those who became separated from the main body.

When breakfast time came, thousands of scouts broke from the ranks and ran off to look for food. Immediately the thrushes swooped down. Many of the scouts disappeared in the beaks of the birds, but the rest continued to rush about looking for prey.

The first to return reported a small tree alive with caterpillars. Marching up the trunk and spreading out over the branches, a regiment of ants pulled the caterpillars apart and ate them up.

Another scout staggered back. Three of his six legs were gone, only one half remained of his two feelers. He had difficulty in finding his way because those feelers, with their acute sense of touch and smell had been his eyes and nose. First-aid soldiers met him, fastened their jaws together to form a stretcher and carried him back to report. He had found a large hornets' nest hanging from a bush.

Still carried on that stretcher, he led the army to the faest. They surrounded the nest, savagely tearing the paperlike covering into bits. The terrified hornets fought madly to defend their home and children but to no avail. The ants marched on.

Under ordinary conditions the ants travel about one mile in three hours and a half. That night as usual, they stopped, formed a huge ball and rested. At daybreak they fell into line once more. By now they had been joined by others.

Near the army's route a large snake had crushed a wild pig to death and swallowed it whole. Then he had twisted himself around a branch of a tree, to sleep while his meal digested.

The ants came to know of his resting place. Excitedly they swarmed up the tree. The snake did not awake even when the ants poured over his body like melted tar. First they blinded him, then ate and ate all day long, eating up their victim to the bone. Then once more they crawled together into a ball to sleep for the night.

When daylight came again, they continued towards our village, driving everything before them. The movement of those thousands of ant feet through the quiet jungle sounded like rain falling gently on the earth.

Suddenly a surprise attack from the rear shocked them. Flanking guards rushed word to the commander-in-chief that a giant ant-eater, their unconquerable enemy, was destroying company after company. With every swoop of his long sticky tongue, scores of ants disappeared.

Just ahead lay the Tiger River. The army rushed towards it. Encountering big rocks on the river bank, the first soldiers linked their bodies together and made scaling ladders. The following ants scrambled upon the ladders and formed bridges from rock to rock. With amazing speed the army swarmed over the bridges until the spray from the rushing river showered upon them. The first ants to reach the stream began at once to build a ball. Soldier after soldier knitted himself into the round mass, leaving a tunnel to the hollow centre. Small worker ants, carrying babies and emergency food, rushed through the tunnel and into the hollow. The last of the army filled the tunnel itself, closed the entrance tight, and the great ball plunged into the river.

After floating through the rapids, the ball was tossed against the bank at a sharp bend, and the ants unlinked their legs and spread out over the shore. Anxiously they searched the ground for the trail. Finally they formed a column and marched forward. Six months had passed since they had travelled that trail, but they found it. And they followed the trail all that day and into the night.

We reached the village late that evening. We had been so interested in watching the ants that we had failed to inform the villagers, and our guide

ran through the village calling : "The army of ants is coming !"

Candle lights appeared in the huts. Children ran to the hillside. Mothers rushed out holding naked babies. The men hurriedly dragged their cows off to safety. This had been happening every half-year.

Soon the invading army attacked the huts from every side. We lived on a hill beyond the village. At dawn we decided to destroy the army. We began to dig a deep trench around the house. Women boiled water in big kettles and children laid dried palm leaves in the trench. Some persons put on high rubber boots, while others wrapped their legs with old rags. Tense and excited, we waited for the enemy.

"They're coming !" cried the policeman. "Get ready !"

The great black column marched up the hill, and along the path towards the house. There the army divided into many small columns ; the ants climbed up the walls to the rafters, killing all insects and dropping them to the floor. Sleeping bats, clinging to the roof, were surprised and killed. Assistants, waiting below, seized the fallen prey and dragged it to the yard to be eaten. Regiments searched the storehouse for mice, and bookcases

for cockroaches, crowded through cracks in the floor; after rats.

When the last ant had passed over the path, the men hurriedly dug the rest of the trench, cutting off the enemy's escape. For six hours we waited for the trapped raiders. At last they came out.

Hurriedly we poured kerosene over the palm leaves in the trench and melted candles in the boiling water. The policeman lit the fire in the trench, while other people took up shovels, lifted the ants, as they swarmed out of the house, and threw them into the boiling water covered with floating candle-grease. Regiment after regiment was destroyed. Confused, the ants scattered in all directions. Thousands reached the trench and were thrown into the fire.

Within 30 minutes every visible member of the ant army had been destroyed. But hundreds had escaped back into the house. We waited, knowing their lust for food would soon force them out.

Suddenly the ant thrushes arrived and circled about. They waited too.

It was late afternoon when, one by one, the ants crawled out of their hiding places. We watched breathlessly as the thrushes plunged to the ground, finishing the job for us.

Exercises

1. Why were the thrushes fluttering about excitedly ?
2. What happened at breakfast time ?
3. What did the first scout report ?
4. What did the ants do to the hornets' nest ?
5. What did the ants do to the huge snake ?
6. How did the army rest at night ?
7. Who is the unconquerable enemy of ants ?
8. How did the army cross the Tiger River ?
9. How did the army plunder the house ?
10. How was the army destroyed ?

CHAPTER IX

AN ADVENTURE WITH A LARGE SNAKE

My companion was Roderick Campbell, who captured wild animals alive for zoos and circuses, and we were travelling on his boat with a thatch house on it that served as a cabin. This house had no windows and was dark inside.

Roderick always scratched a match on a post of the cabin to light the cook-stove. One morning the match failed to light. He tried it again and again, then used another post. His match lit at once—and we were able to see what the trouble was with the first post. A huge snake was coiled around it. Roderick had been trying to light his match on its

We realized with a shock that we were looking at an anaconda, probably the largest snake in the world. Its only rival for size is the royal python of India.

This serpent must have been about 25 feet long and more than a foot thick. The body was an evil-looking dark green and the head was black. The eyes were fixed upon Roderick. I thought of the Red Indian's stories of how the anaconda can

hypnotise man or beast with those terrible eyes. I did not believe such tales. All the same, I did not look at its eyes and lost no time in pulling Roderick out on to the deck.

We were moored against the bank in a reedy corner and our Red Indians were on shore. They were usually eager to help Roderick capture a specimen, but when we broke the news about the anaconda they were terrified. Their leader, Xingu, said, "We never take it. The Red Indians all fear it."

"But you make a pet of the boa constrictor."

Xingu smiled. "The boa is our friend; the anaconda is our worst enemy. The 'deer swallower' is full of devils."

Xingu's use of an Indian name for the anaconda gave Roderick an idea. He had a small deer among his specimens.

"Perhaps we can use the deer to attract the snake on to the shore. Then we might be able to catch it with ropes."

Before getting the deer, Roderick glanced into the cabin to see whether the snake was still there. Then he came ashore.

"Gone," he said. "There's a big hole in the thatch wall. It must have crawled out into the water."

As we stood there, something like an earthquake seemed to shake the heavy boat.

"It is the anaconda !" Xingu exclaimed. "There must be a nest of them here."

Roderick immediately set the men to making a stout edge of bamboo posts. He strung a rope from the mast of the boat to a tree 40 feet from the beach and tied the deer to this rope near the water's edge. Then he prepared three nooses, one for the anaconda's head and the other two for its tail. The cage was placed near the tree.. Now all that was needed was the anaconda.

We hid in the bushes and waited. I was not so experienced in patience as my companion, and after three hours my desire for action got the better of me.

Signalling my intention to Roderick I slipped across the beach and into the water. It was difficult to see under water. It was like going through the jungle, because long reeds grew up from the bottom. They were up from the bottom. They were slimy and disagreeable to the touch. Under them there might be a refuge for small creatures, but certainly not room enough for an anaconda.

I came to the top to breathe and went down again. Now I examined the steep bank. Suddenly I found myself at the mouth of a submarine cave. Two small snakes, five feet long, came out of the

cave and swam off through the reeds. Then the large terrible-looking head of an adult anaconda appeared.

In something of a panic, I rose to the surface and scrambled up on the beach.

"What did you see?" whispered Roderick.

"Anaconda at home," I replied.

"You are sitting right on top of their house. There's a big cave running back beneath you."

Something broke the surface of the water. Now and then a ripple gave a glimpse of the eyes. And the great head was coming straight towards the deer. It arrived at the beach, slid out of the water and rested on the bank. The deer saw it and began to struggle violently, its hooves tearing up the sand.

Roderick had slipped through the bushes to the tree and now began to pull on the rope. Slowly the deer was drawn towards the tree. The snake followed. Every time the anaconda seemed about to attack. Roderick drew the deer out of its reach. When the deer reached the tree the anaconda was six feet behind and coming fast.

Roderick shouted to us and leaped from behind the tree with the head noose. We closed in on both sides with the tail ropes.

The slightest mistake now would be serious.

The snake was about to attack. Before it could do so it must be noosed by the head and the tail. Roderick slapped the noose over the big head and drew it tight on its narrow neck. The other end of the noose rope ran through the cage and out between the thin pieces of wood at the back. With the tail held firm so that it would not lash about, it should be possible to draw the snake inch by inch into the cage.

But it was not to be so easy. Roderick had done his job well, but we had managed to get only one of the nooses in place. As the snake plunged forward, whipping its tail, this rope was jerked out of the Red Indians' hands.

I got in the way of the thrashing tail and was knocked down. Xingu boldly leaped in with the other noose. The tail suddenly encircled him. He fought wildly to free himself. The great snake could crush the life out of him in a few minutes.

Meanwhile, the snake was advancing upon Roderick. Backing up, he stumbled and fell. He said later that in the second or two he lay there all the stories he had heard of men who had lost their lives to this fearless serpent flashed through his mind. As the serpent drew near, he jerked himself out of the way of the striking head and leaped to his feet.

The snake was turning its jaws towards Xingu, whose body was held fast in the dark-green folds. The anaconda has no poison fangs but plenty of cruel teeth, and once it has closed upon its prey it swallows its victim down its expansible throat. But, before it could close, Roderick lunged for the snake's head and buried his thumbs in its eyes. He held on grimly as the anaconda's body writhed and whipped. The coil relaxed and Xingu was thrown out into the bushes.

We again tied a tail rope, and Roderick and two Red Indians pulled the head rope. The struggling serpent was gradually drawn into the cage, but there was still ten feet of snake outside ! The tail rope was now passed into the cage and by means of it the tail was drawn in. The door was closed. The capture was complete.

Exercises

1. Why did the match fail to light ?
2. What is an anaconda ?
3. How was Xingu caught by the serpent ?
4. How did Roderick save Xingu ?
5. How did they capture the snake ?

CHAPTER X

THE FIRST NON-STOP ATLANTIC FLIGHT

Travelling in aeroplanes has developed so quickly that non-stop trans-Atlantic flights are now an everyday affair.

The first of these was made, in 1919, by two Englishmen, Captain J. Alcock and Lieutenant Whitten Brown.

"If the wind holds like this we shall do the trip in sixteen hours," Brown said.

It was expecting almost too much ; yet it so happened that they did their trip in a few minutes more than sixteen hours.

The mails were stowed, the letter for the Secretary of the Royal Aero Club placed in safety, a package of sandwiches and thermos flask of coffee put aboard. The representative of the Royal Aero Club saw that the seals on the planes were properly affixed. Alcock and Brown climbed aboard. The crowd from St. John's began to cheer.

Alcock opened the throttle wide and the engine roared out at full power. Then he waved his hand,

the blocks were pulled from under the wheels, and at about 4-25 Greenwich time, the aeroplane, in a gale that would have frightened pilots, gathered speed along the bottom of the valley. All present cheered loudly as it rose up into the air. Only during that short run to get her into the air was the full power of the engine used ; as soon as she was safely launched in the air, Alcock throttled down the engine and let her climb at her leisure.

The weather was very bad. For the greater part of the journey sky and sea were both hidden from them. At one time they flew along at two miles a minute between two layers of fog, one covering the sea, the other hiding the sky ; at other times they flew between layers of cloud below and above.

They were quite comfortable sitting side by side in the cockpit, but they flew in a gale of sleet and hail which froze over the planes and radiator shutter. It threw an icy coat over the indicator which recorded the temperature of the water, and Brown every now and then was forced to climb up to cut the ice away with a knife. Comfortable though they were, with the gale roaring past them, they found it was torture to poke their heads out. As Alcock said afterwards to *THE TIMES* : "The cockpit was very cosy indeed, but when we peered

over the side, sleet and ice chewed bits out of our faces."

No wonder he called it a terrible trip. Not a boat did they see all the way, not a wireless message did they receive. They raced on hour after hour with the wind raging about them like fury. So bad was it, and so shut in were they by fog or cloud, that once they did not know whether they were flying right side up or upside down. They seemed to be independent of the forces of gravitation.

The air speed indicator jammed. It jammed through sleet freezing on it, and it smelt smoky. It was very alarming. They had no sense of horizon. They came down quickly from 4,000 feet until they saw the water very near. Then they saw the horizon again, and they were all right. That period only lasted a few seconds, but it seemed ages. It came to an end when they were within fifty feet of the water, with the machine practically on its back.

About 3 o'clock in the morning, Brown caught a glimpse of the Pole Star and was able to check his path, finding they were two degrees farther south than they should have been. Brown had to feed Alcock, who was too busy flying the machine to be able to feed himself. The pilot ate three sandwiches, the navigator five, and each had four

cups of coffee, sharing their last cup together. "I was not hungry, but frightfully thirsty," said Alcock afterwards.

No wonder they were glad to sight Ireland in the morning. Crossing the coast at 8-25 A.M. they flew on till they saw the wireless station at Clifden, where they landed at 8-40 in what proved to be a bog that wrecked the undercarriage and sent the machine burying her nose and propellers in the soft ground. Luckily both men were only shaken, and when they got out, and some twenty or thirty people had run up from the wireless station, their arrival was so unexpected that Alcock had to explain: "We are flying the Vickers-Vimy machine just come over from Newfoundland."

It was really almost as wonderful as saying they were two Martians who had arrived that moment from Mars. A few years ago their feat would have seemed impossible. From coast to coast their time was only 15 hours 57 minutes, so they flew 1,951 miles at an average speed of $122\frac{1}{2}$ miles an hour!

"What do you think of my ability as a pilot?" shouted Brown, whose brilliant work had brought them out of the fog with three miles of the selected point.

"Very good," said Alcock, shaking hands.

Alcock, very stiff, very deaf, and very thirsty, was not tired, whereas Brown was glad to go to bed at the first opportunity. Before breakfast, however, they sent this telegram to the *Daily Mail*, whose prize of £10,000 they had won by their fine feat :

“Landed at Clifden 1-40 A.M., G.M.T. June 15, Vickers-Vimy Atlantic machine, leaving Newfoundland coast 4-28 P.M., G.M.T. June 14. Total time 16 hours 12 minutes. Signed, Alcock and Brown.”

Exercises

1. Who first flew the Atlantic non-stop ?
2. In what month and year was it, and how long did the journey take ?
3. What type of plane was used ?
4. Which of the two men was the pilot ?
5. Whence did they start and where did they land ?
6. What was the distance from one place to the other ?

CHAPTER XI

THE ATTACK ON MOUNT EVEREST

On 1st June, the first attack proper began. Mallory and Geoffery Bruce started up from the Pass, and that same night the second party—Norton and Somervell—slept there. Odell, Irvine and Hazard were in reserve.

2nd June was so windy that the coolies lost heart, and would not go on. You may ask, why did they not attempt to rush the peak; but one cannot rush at the rate of twenty steps for one prolonged halt, while one coughs up blood and pants for dear life.

Norton and Somervell fared better, despite a heavy battering from the wind. They passed the first party as it was returning. They pitched their high camp on the east side of the ridge. This was at 25,000 feet.

The two climbers and their four coolies slept there. The next day one cooly was left behind, but the remainder carried their loads, in very good weather up to 26,700 feet, where they established the highest camp that had ever been made. Despite strong winds, loose stones and thin air, not to mention Somervell's terrible cough, victory now seemed in sight. The coolies were sent back, and the

climbers spent a comfortless night, waiting for the great day to dawn.

They started next morning at 6.40 A. M. The actual climbing offered no difficulty, but the speed grew slower and slower. As they passed above 27,500 feet, they had to halt at each step and take many deep breaths. With oxygen, success would have been certain ; without it they became weaker and weaker. Finally, at about 28,000 feet Somervell stopped and Norton went on alone.

He was now quite close to the upper pyramid, though some 200 feet below it. Somervell sat and watched him for an hour, during which he did not climb more than eighty feet. At last he also stopped. The height was 28,133 feet, and he was in a gully, with very difficult climbing ahead. He felt that if he did reach the top he would never get down again. Completely tired, both men turned back unwillingly.

All was not yet over. The oxygen had arrived, and after some discussion Mallory and Irvine set out on a final effort, carrying cylinders. Meantime Norton went snow-blind during the night. For two days and a half he could see nothing ; but it was necessary to get him down to the Base. This was done by Hingston and Hazard, who guided the blind man's steps across the deadly ice cliffs of the North Pass. Bruce, too, was quite exhausted, and had

been forbidden to climb again.

It is a strange thing that in each of the attacks on Everest the second climb was the best, and the third disastrous. Mallory and Irvine left Camp IV on 6th June, safely reached the high Camp VI, and were seen by Odell, at ten minutes to one, on the afternoon of 8th June, climbing steadily up the base of the final pyramid, with about 800 feet still to conquer. They were then about 100 feet higher than Norton had attained. A passing storm shut them out from Odell's view, and though he looked afterwards, hard and often, he could not find them. He waited, in much anxiety, for a long, long time ; and when a day had gone, and they had not returned, he went up to the last camp, but they were not there. Either they had stopped, tired out on the high peak, and had been frozen to death, or they had slipped and fallen to their doom. No trace of them was found, nor could a proper search be made, owing to the lateness of the season, the vast extent of the mountain, and the weakness of the other climbers.

This tragedy closed the attack on Mount Everest for nine years.

A new climbing party was then organized in 1932, under the leadership of Mr. Hugh Ruttledge.

Early in March, 1933, there began a long passage

of men, supplies, and coolies through the frozen and wild valleys of Tibet to the Rongbuk Monastery, where the Head Lama again blessed the climbers.

On 29th May, Harris, Wager, and Longland, with eight coolies, tried once more, and at last placed the sixth camp 700 feet higher than Camp VI of 1924 and half a mile nearer to the final pyramid ; but even with this advantage success did not seem certain, because the approach was barred by two vertical and in places overhanging cliffs, known as the First and Second Steps ; and unless a way round the latter could be found the mountain would prove unclimbable. Nevertheless, after a bitterly cold night, Harris and Wager started out on the attempt at 5.40 A. M., and in calm weather.

The outwardly sloping ledges were so dangerous that Harris and Wager tried another path along the crest of the ridge ; but after losing several hours in very rough ground, they were compelled to return to the side of the "house roof." They next crossed the head of a huge snow-covered gully, with a vertical cliff beside them and clouds rolling along far below. They slowly approached the final pyramid, and had gained a height of 28,100 feet near to the spot where Norton had turned back in 1924, when the late hour put an end to their hopes. To go on

might mean a night in the open, and at that height there could be only one end to such folly. They therefore returned to Camp VI.

Another day passed, then, on 1st June, the last attack was made. Shipton soon found himself becoming tired out, and he stopped ; so Smythe went on alone, until by 10 A. M. he had reached Wynn Harris's farthest. He now found the slabs covered with the loose snow that had fallen the day before, and if he had continued, he would have died. So he too went back ; and after spending a night alone in Camp VI, he followed his comrades to the Base Camp.

This really closed the season's work. Every day the great mountain became more heavily covered with snow ; and although the climbers gathered once more at Camp III, it was soon clear that the higher camp must be left and that no more could be done that season.

While the land attack had been slowly approaching the top, two aeroplanes suddenly rose above the haze-buried hills of Nepal, and rising to a greater height than Everest's, swooped down upon the defiant summit, circled twice round its huge walls, and then, with a triumphant roar disappeared into Nepal again (3rd April).

Exercises

1. Up to what height did Norton climb ?
2. Why did Norton and Somervell turn back ?
3. What happened to Norton after that ?
4. What happened to Mallory and Irwine ?
5. What height did Harris and Wager reach ? Why did they turn back ?
6. Why did Smythe give it up ?
7. Was the Everest conquered after all ? If so, how ?

CHAPTER XII

THE PINDARI GLACIER

Should you care to visit regions of perpetual snow or watch a huge mass of sparkling snow glide down a valley, go and visit the Pindari Glacier.

It lies on the borders of Almora district. Its fame is spreading far and wide and every year the number of people who come to see it is increasing. The journey is comfortable. From Almora the glacier can be reached in six days doing on an average 12 miles a day. There are small dak-bungalows all along, where travellers can stay at night. The route from Bageshwar as far as Loharkhet lies up the valley of the river Surju. Between Kapkote and Loharkhet two bubbling springs of sulphur and hot water that come meandering through a glade of giant pines are interesting to explore. The valley of the Surju is well cultivated ; the noisy mountain stream, the terraced fields, the farmers working busily, the villages with little whitewashed houses, and the shepherd boys watching their cattle on the hillside are beautiful sights of Himalayan rural life.

The people of Dharampur are intelligent, but simple and superstitious. The peasant here is as poor as in any other part of India. He lives in a small hut, but he keeps it clean and tidy. He eats two meagre meals—hardly enough to keep body and soul together, and yet he is strong enough to carry the load of a mule on his back and climb towering heights as quietly as any hill-goat ! He cannot reap what he sows, for the ground is rocky and the intense cold allows only a very few things to be cultivated. He wears a shirt and a loin cloth ; and for an overcoat, he cleverly wraps round him a blanket of sheep's wool. This blanket he makes himself. The women wear a long gown of the same kind of blanket. It is gracefully pinned over the shoulders and a tight waist-band gives the lower part of the dress the appearance of a skirt. Some women wear bright-coloured bodices of a softer material. The women make no pretence of being dainty or delicate. They work in the fields, climb up the hill to cut grass for their cattle, look after the house, and when necessary, can lift as heavy loads as the men. If bears or leopards cross their path they are as clever with their scythes as the men with their axes. In spite of their poverty the people are kind, generous and hospitable. The headman of the village will always bring the visitor

a present of delicious honey and walnuts or vegetable. At the village of Kathi, there was a fine old man of 115 years. He carved beautifully with a needle on walking sticks, and was so generous of heart that every visitor received the present of a stick.

This is the last glimpse of human beings. After this starts a weary climb and the traveller enters Dhakuri forest (8,900 ft.). Its crops of Kharsu oak, silver fur, maple and walnut are so thick in places that the trees make an archway over the road and not a ray of the sun can penetrate through. It is a dark and lonely loveliness that throws her arms around you and turns your fancy to thoughts of fairyland ! The peep into jungle life is delightful. Hundreds of birds sing all the day long, gorgeous butterflies flit in and out. A picturesque variety of flowers and ferns, and delicious red raspberries cover the mountain side. The scenery is so grand that the traveller may well lie down under the great brown and blue shadows of the drooping trees and dream that the gates of paradise have been thrown open to him ! An awful silence reigns over all, there is no cultivation, no fields, no sign of man—only the merry piping of birds, the chirping of the cricket, an occasional shriek of the wind, laughing water-falls, gurgling streams and all around nothing

but ranges and ranges of majestic mountains that inspire reverence !

We set out from Parkia (10,700 ft.) at 5-30 A.M. on the 25th of October 1922, for the glacier. It was hard work crossing the many snowdrifts. A recent fall of 6 ft. of snow had hidden the road, and only by cutting steps in the snow was further advance made possible. It was bitterly cold, the water-falls were frozen and transparent ice, resembling glass sheaths, encased the flowers and blades of grass growing along the banks of the streams. Within three or four hundred yards of the glacier there was no vegetation. The snow lay cold and hard, then gradually the rising sun kissed the peaks and adorned them in a garment of gold tissue. The glacier itself was a magnificent sight. Its immensity is a wonder and its ice-field and ice-cascades are thrilling. Its elevation is 12,088 ft.

The surface of the glacier presents many cracks and crevices and the ice-caves that lie hidden above "the snout" are full of wonderful charms. They are difficult to find as the fresh snow blocks the narrow entrance. Some of the caves are 15 to 20 yards long and so dark inside that the service of a candle is required. The wall and roof are of transparent pale green ice, huge blocks of ice lie

scattered on the ground, and fine pencils of ice hanging from the roof look like a hundred candles waiting to light the palace of the Ice Maiden ! The water bores small holes through the roof and falls in a shower of beauty. These water holes in time get larger and weaken the roof so that it collapses.

It is a sad thing to say that the glacier is receding fast. The "snout" is not very imposing, it is covered with dirty muddy snow. North-north-west of the "snout" are two small ice caves, from which issues the silver "Holy Pindar." At the source and for a mile further down its waters are muddy, but farther down it becomes a sparkling mountain torrent.

There is a little cave two miles down the bed of the river, and the people of the place believe that Bhim, the Pandava Prince, spent twenty-four years of devotion there.

The men of Dharampur have a strange custom of leaving their ponies at the glacier from April till November. These animals remain there quite unprotected and graze where they wish, till the owners bring them back and sell them at the Bageshwar fair held on the 14th of January every year. It is an interesting "Mela" to visit.

At the glacier itself, at this time of the year,

there were no birds except snow pigeons, and golden eagles.

Slowly as evening drew on, the setting sun splashed the sky with crimson and gold. All seemed on fire around and beyond, and the grand old mountains arrayed in purple waited patiently till Nature whispered, "Hush ! the night is coming." Night which brings men peace and love, came and paused among the stars, and looked down on the doings of petty mortals. The coolies were gathered round a blazing fire and were offering a goat as sacrifice to the goddess Nanda Devi. Some were softly singing a mournful song. The sacrifice was followed by the performance of the demon dance. To the wild beating of drums the dancers jumped about like mad men throwing up their arms and legs frantically. Louder and louder grew the beating of the drums and quicker and higher jumped the dancers. They had forgotten everything except the maddening rhythm of the music. It intoxicated them, and they, drunk with it, danced so for hours till they fell down exhausted.

"A glacier is a mass of snow moving slowly down a valley" but how many realize the magnificence and beauty that lie hidden there—the valley of a thousand wonders !

Exercises

1. What is a glacier ?
2. Where is the Pindari Glacier situated ?
3. What do you know of the life, dress, habits and customs of the people of Dharampur ?
4. When is the cattle fair held at Dharampur ?
5. Which part of the route to the glacier is the most beautiful ?
6. What did the coolies do in honour of Nanda Devi ?

CHAPTER XIII

A VISIT WITH MAHATMA GANDHI

Mohandas Karamchand Gandhi runs a small weekly magazine in English called the *Harijan*. Last May, when the British Cabinet Mission published its plan for giving India a national government, the real question was not: Will India accept the British scheme? It was: Will Gandhi accept it? For Gandhi is still the biggest thing in India.

After "four days of searching examination," Mahatma Gandhi wrote a brief article for the *Harijan* declaring that "in the circumstances the Cabinet members have invented the easiest and quickest method of ending British rule."

Every newspaper in India reprinted this article. It was cabled to Washington for the perusal of high officials. Full extracts appeared in the British newspapers and elsewhere.

Immediately below Gandhi's analysis of England's history-making offer to liberate India, the *Harijan* published a second article signed by the Mahatma, "Mango Seed Kernel," in which he praises its food value as "a fair substitute for cereals and fodder."

† This issue of the *Harijan* shows the character of Gandhi. He is many-sided because he is interested in the life of the common man and that life is many-sided. In one article Gandhi defines independence for India ; in another he advises a reduction in the sugar ration for candy making ; in a third he treats the problem of crime ; in a fourth he discusses the uses of the "ground-nut."

To Gandhi, the mahatma saint, politics is not too big and peanuts are not too small.

I visited Gandhi for a week in a noisy Indian village in the summer of 1920. Recently I visited him again and spent six days.

Perhaps the most astonishing thing about him is that he lives in public 24 hours of every day, and seems to enjoy it. His bed is a mattress placed on the stone terrace of Dr. Dinshah Mehta's Nature Cure Clinic in Poona. The terrace is open and levels with the earth. Several disciples sleep near the master. I was given a room inside with a good bed.

At four in the morning I could hear the Mahatma and his group reciting prayers. Then he drinks orange or mango juice and answers letters by hand. He is 77 ; his handwriting is clear and firm. He sees and hears well, and hopes to live to be 125. Once a day Rajkumari Amrit Kaur, a Christian woman of an Indian Prince's family who has given up

everything to serve Gandhi as chief English secretary, reads the news to him from the short official statements of a British telegraph agency. He never reads newspapers or listens to the radio.

But India comes to him in thousands of letters and hundreds of visitors. Every visit is timed by the Mahatma's nickel-plated dollar watch which hangs from a cord which holds up his handspun cotton loin cloth. He is extremely punctual, his body is always clean and he enjoys everything he does, especially talking, walking, eating and sleeping.

I used to walk with him in the morning at 5-30. Several mornings it rained. "Surely you are not going to walk in the rain." I suggested.

"Oh, yes," he replied. "Come along. Don't be an old man."

I travelled with him by train from Poona to Bombay, a $3\frac{1}{2}$ hours journey. He and his party, which consists of about ten secretaries, devotees and his personal physician, occupied a special third-class carriage furnished only with hard wooden benches. It rained torrents, and soon water began to drip from the roof. Gandhi wrote an article for the *Harijan*. Then he talked to political leaders who had boarded the train for an interview. At all stations, in spite of the heavy rain, crowds assembled to see him.

During one stop, several boys, soaked to their skins, stood outside the window shouting, "Mahatma Gandhi Ki Jai!"

I said to Gandhi, "What are you to them?"

Gandhi loves to joke. He stuck two fingers up from the sides of his bald head and replied, "Horns. I am a man with horns. A spectacle."

Gandhi spends the day—and sleeps during the day—on a mattress on the stone floor of his room. He eats raw and cooked vegetables, fruit, dates, milk puddings, and thin chapatis. He does not eat eggs, meat or fish, and takes no coffee, tea or wine.

His doctor says that he is not so well now as a year ago—probably because of three hard months of discussion with the British Cabinet Mission in the murderous heat of New Delhi; Gandhi was the central figure in all the conferences. Nehru, Patel, Azad and their co-workers were consulted by the British ministers. The Congress Party's highest executive body would deliberate. But the final decision was made either in Gandhi's mind or in talks on the floor of his hut in the middle of Bhangi Colony (the street-cleaners' slum.)

The slum is inhabited by untouchables. Gandhi wants to teach the caste Hindu to give up his cruel mistreatment of the Untouchables. Already caste

Hindus have begun to use Untouchables as servants and cooks. Gandhi has compelled sacred Hindu temples, closed for hundreds of years to Untouchables, to open their doors to them. By birth he is a caste Hindu, but he says that he is one with the Untouchables, so that other Hindus may do likewise.

Most Indians bow low before Gandhi when they come into his presence. Often he bangs them on the back with his fist and tells them to stop. Then they sit on the floor, and the interview begins. Anyone in the house may enter and listen. I have often come to the entrance of Gandhi's room (there is no door) to find ten or more pairs of sandals and shoes on the threshold. I would put off mine and join the company on the straw mats. But as a rule the talk is held between Gandhi and the person to whom he has granted an interview.

Congress Prime Ministers of Indian Provinces come for his advice and instructions. Educators come to test their ideas on him. Whoever has a new scheme seeks his blessing. Many persons come to get help in solving personal problems. While I was with him, an Untouchable couple who were unhappy in married life took up his time with their tale of troubles. He spent hours with them. Peasants and workmen request his help in bringing in needed

economic and social reforms.

I wondered at his energy. He never goes to bed before ten. On occasions when I passed him as he lay on the terrace ready for the night, he would tell me that if I prayed more I would sleep better. I was never up in time for morning prayers and sometimes absented myself from the public prayer meeting in the evening, which attracted hundreds and even thousands of people.

The core of Gandhi's religion is a faith in God, in himself as an instrument of God, and in non-violence as the way to God in heaven and to peace and happiness on earth.

I asked him why he did not preach non-violence to Europe. "How can I," he replied, "when I have not even convinced India? I am a spent bullet."

He realized that the temper of the youth of his country is violent, impatient. If the British had refused to part with power peacefully, a fire would have swept the Indian sub-continent and burned up every trace of foreign domination. Asia is tired of bearing the white man's burden.

Gandhi has given his life wholly to the independence of his country. Yet he does not wish to achieve that goal through violence. This is now his quarrel with the Socialist members of the

Congress Party. During the Civil Disobedience campaign which Gandhi started in 1942, the Socialists practised sabotage, organized an underground movement, and forcefully hampered the authorities. All these things are outlawed by Gandhi's code of non-violence.

Gandhi proposes to use every possible means of obtaining independence through peaceful methods. The Socialists are prepared for a final war with the British. "Independence," Gandhi said, "means the removal of British control. It means complete freedom from British and Indian capitalists. It also means freedom from armed defence forces. A country that is governed by even its own national army can never be morally free."

Most of Gandhi's followers go along with him in his first two objectives. They do not accept the third.

I felt he was sadder and more depressed than when I saw him in 1942. He fears that, if freedom for India is attained by force, the same force can be used to take freedom from Indians.

Gandhi was anti-Japanese and anti-Nazi, but he was anti-war because he thought that victorious powers would not be able to make a peace based on the power of weapons. He sees dictatorship threatening the world. He regards himself as the

opposite pole from Stalin. Gandhi says that the means must be pure ; Communists say that their ends justify the use of any means.

Democracy is built on respect for the means. Gandhi is the pure democrat. He will forgo his end if the means are unholy.

In talking to Gandhi one sees the entire world in the mirror of India. For him, a conversation with Sir Stafford Cripps and the cultivation of peanuts have the same goal ; the welfare of 400,000,000 Indians. That is why he is the most loved and the most influential man in India. Hindus worship one God, but they also worship many gods and idols, and there are already idols of Gandhi in some Hindu temples.

Asia is so hungry, ragged and unhappy that it thinks with its stomach, sees with its nakedness, and feels with its misery. The hundreds of millions stand in awe of the mighty, but they give their heart only to those who give up personal advantage and dedicate themselves to the general welfare. Gandhi is the symbol of lifelong renunciation and dedication. Many Indians differ with him ; many reject his strange ideas. But all respect his sincerity, wisdom, and love for truth.

The British know Gandhi's great power over the

Indian people and their first effort is to win him for their plans.

Seventy-seven is extremely old age in a country where the average age is 27. Gandhi's good health and great energy are declared by his intimate co-workers to be due, first, to his regular habits ; second, to his persistent care of his body ; and third, to his desire to live and to serve.

"The gates of heaven are waiting to receive Gandhi," a rich man of Bombay said to me, "Gandhi wants them to wait. He is working to make the earth more heavenly."

Exercises

1. Why did the author think that Mahatma Gandhi was the greatest leader of India ?
2. Why was the Mahatma many-sided ?
3. Where did the Mahatma sleep and what did he eat ?
4. What did the author see when he travelled with the Mahatma from Poona to Bombay ?
5. Why did the Mahatma stay at the Bhangi Colony in Delhi ?
6. What was the core of Mahatma Gandhi's religion ?
7. Explain :—

'He, will forgo his end if the means are unholy.'

CHAPTER XIV

LORD SHAFTESBURY

With the invention in the eighteenth century of the new machine for spinning and weaving, great changes took place in England. They are known in history as the "Industrial Revolution."

The new machines could be set up only in large buildings, because they required greater power than that of a man or woman to drive them. The earlier machines were driven by water-power ; but after some time steam-power came into general use. The use of steam demanded a great supply of coal, and so it was cheaper to set up spinning sheds and weaving sheds in places where coal was most easily obtained. So big factory towns began to spring up in the north of England, where there were coal-pits.

Cottagers, who had been able to earn a large part of their living by spinning and weaving in their own homes, found that they could not compete with the new machines, and they were often forced to leave their homes in the villages to seek work in one of the towns. In this way, villages far from

coal-mines often became practically deserted, while other villages near the mines suddenly grew into ugly, ill-built towns. But the saddest thing in the story of the Industrial Revolution is the effect that it had on the children.

When the machines were set up, it was found that much of the work could be as well done by children as by adults. So some greedy mill-owners employed orphans and children of poor parents in place of grown-up men.

Poverty drove mill-workers to take their own children to work at a very early age, so in many a big mill there was quite an army of little workers. They often started work at the age of three or four, earning six pence a week for picking up "waste" from the floor.

The poor children often stood at their work twelve hours a day; some worked fifteen, and some even eighteen hours. The work was carried on in hot, stuffy rooms, often by the light of oil lamps or candles. In some factories there were day and night shifts, so that the machines need never stop working. During meal-times and half-holidays children were often kept at work cleaning the machines. Besides all this, they were often beaten by the overseer, who used a long strap for the purpose

of waking the poor little children who fell asleep, or for punishing any carelessness.

If the lot of many little factory workers was hard, that of the children who worked in the coal mines was even worse. Tiny children, boys and girls, only four and five years old, were carried to the mines on their fathers' backs, and made to work in inky darkness for sixteen and eighteen hours a day, and were then carried home, fed when they were almost asleep, and put to bed quite worn out.

Children of six worked as "trappers," sitting at doors in the mine galleries during a twelve hour shift, ready to pull the door open to let coal trucks pass, and then close it again. At first they were given candle ends, which burned a couple of hours at the most. If the children cried or went to sleep on duty, they were severely beaten. Work in the pits began at four in the morning and lasted till late in the evening, so children working in the mines rarely saw the sun.

As they grew older, these mine children were given still harder work. Boys and girls of ten or twelve, acted as "drawers" and "thrutchers." The drawer had a belt round the waist, and fastened to it was a chain attached to a coal truck, which was thus dragged through long galleries to the

loading-stage. The thrutchers helped the truck along by pushing with their heads, while the drawers pulled. Thrutchers wore a thick cap, but the work soon made them bald on the top of their heads. The boys became miners when they grew up, but the poor girls had to go on working with the trucks.

In 1802, an Act of Parliament was passed, forbidding the employment of *young children more than twelve hours a day*—excluding an hour and a half for meals so the working day was really thirteen hours and a half. Another Act of Parliament forbade the employment of children under nine years of age in mills, though little boys and girls were still employed in the mines. But it was not until Lord Shaftesbury took up the cause of the children that much was really done for them.

Lord Shaftesbury was the son of a rich man but he had a very unhappy childhood. He was harshly treated by his father, who was often away from home, leaving the children to the care of the servants. His best friend was his nurse, who taught him his prayers and something of the love of God, but she died when he was quite young. His first school was a miserable place, where he was ill-treated and half-starved. But after he went to Harrow, his life became better and happier.

Perhaps it was partly because of his own

unhappy childhood that the rich man's son was so eager to help the little boys and girls whose lives were so hard. When he grew up and became a member of Parliament, he brought in a bill to limit the children's working-day to ten hours. Even that meant working from six in the morning till half-past five in the evening, allowing time for meals, but up till then they had been working much longer.

Although Lord Shaftesbury spoke at meetings and wrote letters to the newspapers, he received but little attention when he first brought his Ten Hours' Bill before the House of Commons, in 1833—the year of the freeing of the slaves. He did not give up, however ; and, fourteen years later (1847), his bill became law. It was not until many years after that all the reforms that Lord Shaftesbury proposed were carried out ; but the Ten Hours' Bill was followed by a series of Factory Acts that gradually improved the conditions of workers—both children and adults—by laying down rules for work in factories, and appointing inspectors to see that they were carried out.

There was another class of children for whom this good man fought hard. In those days, when the old-fashioned chimneys were difficult to clean with brushes, it was the custom to make little boys,

or even girls, climb up the chimney and get the soot down. If they were afraid and hung back, cruel master-sweeps sometimes lit a fire on the hearth and burnt their feet. Small children were needed for narrow chimneys, and some were sent chimney-climbing before they were five years old.

Thanks to the work of Lord Shaftesbury, this form of child labour is now unlawful, but it cost him a long and hard struggle before he won the victory.

There were still other children who were badly in need of a friend. In London there were streets and alleys where all sorts of wicked people lived ; people who made false coins, robbed houses and shops, picked the pockets of citizens in the streets, sometimes even gagged and murdered unwary passers-by. In the midst of all this misery and wickedness many children were growing up to be wicked and degraded men and women, just because they had no one to teach them to be different, and they never saw or knew anything good.

Some good and benevolent men, who were sorry for these poor children, started a little night-school for them. At first the boys behaved like wild beasts, fought and shouted, broke the chairs, knocked over the tables, and blew out the light. But, after a time, they began to behave better and to try to learn a little.

After some time, Lord Shaftesbury heard of this little school. He went to see it, and visited it again and again. By his help other schools of similar kind were set up, and the teachers went out at night to search for homeless children, whom they found in all sorts of strange places, and brought in for shelter and food. From this beginning came the Ragged School Union, or, as it is sometimes called, the Shaftesbury Society, and the founder was its President for more than forty years.

Lord Shaftesbury died in 1885, at the age of eighty-four, and was buried in Westminster Abbey. Thousands of people lined the streets on the day of his funeral, every one of them wearing at least some scrap of black as a sign of mourning. There was still much left to be done, but Lord Shaftesbury had brought about many changes in the lives of the poor boys and girls who had so badly needed a champion.

Exercises

1. What is the meaning of the "Industrial Revolution?"
2. Why did big towns spring up in north England?
3. Why did the workers leave their villages?
4. Why did the mill-owners employ children in place of men?
5. At what age did the children start work and how many hours a day did they work?

6. Describe the condition of those children who worked in coal mines ?
7. How did little children sweep the chimneys ?
8. What do you think of the people of England after reading these accounts ?
9. Who was Lord Shaftesbury ?
10. Why was he called "The Friend of Children ?"
11. What was the Ragged School ?

CHAPTER XV

RANA RAJ SINGH

Rana Raj Singh the "royal lion," mounted the throne of Mewar in 1654. A few years later he challenged the armies of Aurangzeb. The valour of the Sesodias again burst forth in all the splendour of the days of Pratap, the war ending with a series of brilliant victories, and the narrow escape from captivity of Aurangzeb. After some time, Aurangzeb demanded the hand of the princess of Rupnagar, and sent with the demand, a procession of 2,000 horses to escort the fair princess to court. But the haughty Rajputni rejected his proposal; and entrusted her cause to the arm of the chief of the Rajput race, offering herself as the reward for protection. "Is the swan to be the mate of the stork? A Rajputni, pure in blood to be wife to the monkey-faced barbarian?" So wrote the princess, and added that she would kill herself if not saved from dishonour.

This appeal was accepted by the Rana. With a chosen band he rapidly passed the foot of the Aravalli and appeared before Rupnagar, cut up the

Mugal guards, and carried off the prize to his capital. This brave deed was praised by all true Rajputs, and his chiefs with joy gathered their followers round the red banner of Mewar to protect the queen so bravely won.

For some time the Mogul delayed his revenge, and it was not until the deaths of Jaswant Singh of Marwar and Jai Singh of Ambar, both poisoned by his own command, that he considered himself strong enough to accomplish his long cherished design, the imposition of the *jezia*.

On the promulgation of the *jezia*, the Rana wrote a letter to the emperor—a letter which for the grace and dignity of its tone of lofty resolution is famous even to this day.

Having collected a powerful army, the emperor entered Mewar. He speedily conquered the low countries, for the Rajputs had learnt by experience that this portion of their state was indefensible, and the inhabitants had already retired with their belongings to the hills. Aurangzeb captured Chittor and many other forts and stationed his troops therein to defend them. Meanwhile, the Rana was stirring up the wild people of the Aravalli. Even the primitive races of the western wilds, “with thousands of bows and arrows devoted to the cause of Hindupat,” gathered around the red banner.

The Rana divided his forces into three bodies. His eldest son, Jai Singh, was posted on the crest of the Aravalli, ready to attack the invaders from either side of the mountain ; Prince Bhim was posted to the west, to keep up communications with Gujarat; while the Rana, with the main body, took post in the Nain defile. Aurangzeb encamped near the Udai Sagar lake. He then advanced to Dobari at the very mouth of the gorge ; but, instead of entering it, he halted his force, and, by the advice of Tibur Khan, sent on Prince Akbar with 50,000 men to the capital.

Prince Akbar advanced. Nobody interrupted his progress to the city. Palaces, gardens, lakes, and isles, met his eye, but no living thing ; all was silence. Akbar thought that the Rajputs had run away. His camp was pitched, his men were resting. Suddenly, as if from the clouds, the heir of Mewar with his whole force was upon them. "Some were praying, some feasting, some at chess : they came to steal and yet fell asleep." In a few moments they were dispersed with terrible slaughter. Cut off from the possibility of a junction with the emperor by a movement of a part of the Rana's army, Akbar tried to retreat to the plains of Mewar by the route of Gogunda. It was a choice of evils, and he took the worst. The Bhils of the mountains hurled

destruction on the foe ; while the prince, with equal speed, blocked up the entrance. Death threatened the Moguls on every side ; at the hands of their enemies if they tried to escape, by starvation if they remained where they were. At last the Rana took pity on them and let them depart in peace.

Almost at the same time another body of Mugals under the famous Diler Khan, who tried to enter from Marwar by the Daisuri pass was attacked in the long, narrow pass by the chiefs of Rupnagar and Ganora, and after a desperate fight was completely destroyed. On each occasion, a vast booty fell into the hands of the Rajputs.

The Rana next gave the signal for a general attack on Aurangzeb, who was still at Dobari, watching with his son the result of the operations under Akbar and Diler. The Sesodias and the Rathors fell upon the Mugals like hungry lions, and each tried to outshine the other in this glorious fight against the common enemy, and nobly did they contest the palm of glory. Aurangzeb could not withstand the onset. His guns, though manned by Franks, were unable to protect him against the just cause and avenging swords of the Rajputs, and he was beaten and compelled to disgraceful flight, with a huge loss in men and stores. The Rana lost many brave leaders, but the Mugal banner,

elephants, and vast stores fell into his hands. This glorious battle took place in the spring of 1681.

The defeated forces formed a junction under the walls of Chittor, whence the emperor recalled his son, Prince Alam, from the Dakkhan, thinking it more important to regain lost importance in the north, than to check the growing power of Shivaji. Meanwhile, the activity of Sanwal Das, a descendant of the famous Jaimal, cut off his communications between Chittor and Ajmer. Aurangzeb saw that his very life was in danger. So he ran away to Ajmer, leaving his sons Azim and Akbar, with instructions how to act till fresh soldiers arrived to help them. From Ajmer he sent Khan Rohilla with 12,000 men against Sanwal Das, with supplies and weapons for his sons. The Rathor, joined by all the troops of Marwar, met and gave him battle at Pur Mandal. The Mugals were defeated with great loss, and driven back to Ajmer.

Exercises

1. What did the princess of Rupnagar do when Aurangzeb proposed to marry her ?
2. How did Rana Raj Singh win the princess of Rupnagar ?
3. Why did Aurangzeb cause the death of Jaswant Singh and Jai Singh by poisoning ?
4. Why did Aurangzeb attack Mewar ?
5. How did Rana Raj Singh defeat Aurangzeb ?

CHAPTER XVI

THE SURPRISING ADVENTURES OF DON QUIXOTE

There once lived in a certain village of La Mancha, in Spain, a gentleman who gave himself up to the reading of old books about knights. So much time did he spend over them that he neglected all exercise and even the management of his domestic affairs ; and in the end, through little sleeping and much reading, his brains were dried up and he wholly lost his judgment.

His imagination was so full of all that he had read that he made up his mind to become a knight and go throughout the world with his horse and armour to seek adventures and practise all that he had read.

He resolved to give himself a name worthy of so great a knight as himself ; and in that thought he laboured eight days, and at last called himself Don Quixote of La Mancha. Then he put on certain old armour that had belonged to his great-grandfather, mounted his old lean horse Rozinante, and rode forth into the world to seek adventures.

With him, as his squire, rode one Sancho Panza, a labourer and an honest man. Don Quixote had persuaded him so earnestly and made him so many promises, that the poor fellow determined to go away with the knight and serve him as his squire.

This same squire, Sancho Panza, rode upon an ass. About his ass Don Quixote wondered much, trying to recall whether he had ever read of any knight who was followed by a squire mounted on an ass ; but he could not remember any example of it. Still he had decided that Sancho might bring his ass, intending to dismount the first ungentle knight they met, and give his horse to his squire.

Everything being thus arranged, Don Quixote and his squire rode forth into the world, and had many funny and rare adventures.

Two of those adventures are as follows :—

THE DREADFUL ADVENTURE OF THE WINDMILLS

The first day that Don Quixote and his squire Sancho Panza rode forth to seek adventures, they travelled almost all day without meeting anything worthy of note, which made Don Quixote fret with anger. Riding thus, towards evening they came in sight of some thirty or forty windmills that were in a field. Now as soon as Don Quixote saw them, he said to this squire, "Look yonder, friend Sancho Panza, there are thirty or forty giants whom I

intend to fight and slay ; and with their property we will begin to enrich ourselves. For this is lawful war, and a great service unto God, to take away such wicked giants from the face of the earth."

"What giants ?" asked Sancho Panza.

"Those you see yonder," answered his master, "with their long arms."

"Look, sir," answered Sancho, "they are not giants, but windmills ; and what seem to be arms are the sails, which are whirled about by the wind and make the mill-stone go."

"It is very evident," answered Don Quixote, "that you know nothing about adventures. They are giants. If you are afraid, stand aside and pray, whilst I attack them."

So saying, he applied spurs to his steed without caring for his squire Sancho's cries, who called out that they were certainly windmills and not giants. But Don Quixote neither heard his squire's outcries nor yet saw what the windmills really were, though he was very near them. He cried out aloud, "Fly not, ye cowards and vile creatures, for it is a single knight who attacks you."

The wind now rising a little, the great sails began to move ; upon which Don Quixote called out, "Although ye should have more arms than the giant Briareus, ye shall pay for it." Then, raising

up his lance, he rushed as fast as Rozinante could gallop, and attacked the first mill before him. He ran his lance into the sail, but the wind whirled it about with such force that it broke the lance to shivers, dragging horse and rider after it and tumbling them over and over on the plain.

Sancho Panza ran to his help as fast as the ass could carry him; but when he came up to his master he found him unable to move, so terrible was the blow which he and Rozinante had received in their fall.

"God save me !" quoth Sancho. "Did I not warn you to have a care of what you did, for they were nothing but windmills? Nor could anyone think otherwise, unless he had also windmills in his brain."

"Ah! Sancho," answered Don Quixote, "matters of war are more subject to change than any other thing. Some magician has changed these giants into windmills to deprive me of the glory of defeating them, so great is the enmity he bears me. But his magic will finally become useless against my sword."

"God grant it !" answered Sancho Panza. Then, helping Don Quixote to rise, he mounted him again upon his steed. And talking about their late adventure they continued on their way.

THE ADVENTURE OF MAMBRINO'S HELMET

Soon after this, Don Quixote saw a man on horseback, who had on his head something which glittered as if it were gold. Scarcely had he seen it when, turning to Sancho, he said: "I think, Sancho, there comes one towards us who carries on his head Mambrino's helmet, which I have made an oath to win."

"Take care, sir, what you say, and more what you do," said Sancho. "I think you are mistaken in what you say."

"How can I be mistaken in what I say?" said Don Quixote. "Tell me, don't you see yon knight coming towards us on a dapple-grey steed, with a helmet of gold on his head?"

"What I see," answered Sancho, "is only a man on a grey ass like mine, with something on his head that glitters."

"Why, that is Mambrino's helmet," said Don Quixote. "Retire and leave me alone to deal with him."

"I shall take care to get out of the way," replied Sancho; "but God grant, I say again, it may not prove another mill adventure."

"I have already told you, Sancho, not to mention those mills, nor even think of them," said Don Quixote.

Now the truth of the matter, concerning the helmet, the steed, and the knight which Don Quixote saw was this :—There were near the spot two villages, the one so little that it had neither shop, nor barber, while the other was larger and had both. Therefore the barber of the larger village served also the smaller when the need arose. This barber was now on his way to the little village, carrying with him his brass basin.

Now as he travelled, it by chance began to rain, so that he put his basin on his head to save his hat because it was a new one ; and the basin, being lately polished glittered half a league off. He rode on a grey ass, as Sancho had said.

Thus Don Quixote took the barber for a knight, his ass for a dapple-grey steed, and his basin for a golden helmet. When the poor barber drew near, without saying anything to him, he advanced at Rozinante's best speed, and couched his lance, intending to run him through.

"Defend thyself, caitiff, or at once surrender what is justly my due."

The barber, so unexpectedly seeing Don Quixote advancing upon him, had no other way to avoid the thrust of the lance than to slip down from his ass. No sooner had he touched the ground than, leaping up he ran over the plain with such speed that the

wind could not overtake him, leaving his basin behind him on the ground.

Don Quixote was satisfied and ordered Sancho to take up the helmet, who lifting it, said, "This basin is a good one." He then gave it to his master, who immediately placed it upon his head.

Exercises

1. Who was Don Quixote ?
2. Who was Sancho Panza ? Why did he become a squire ?
3. Why did Don Quixote become a knight ?
4. What happened when he attacked one of the wind-mills ?
5. Why did Don Quixote attack the poor barber ?

CHAPTER XVII

THE LAST DAYS OF POMPEII

The scene is laid at the city of Pompeii, shortly before its destruction. A wicked Egyptian priest, named Arbaces, was the guardian of the beautiful lady Ione and her brother. Arbaces wanted to marry Ione, but she loved Glaucus, a handsome young man of Athens. Arbaces killed Ione's brother and put the blame on Glaucus. The judges said Glaucus was guilty, and according to the custom of those days Glaucus had to fight a hungry lion and kill it or be killed.

And now when Glaucus saw the eyes of thousands and tens of thousands upon him, he no longer felt that he was mortal. All trace of fear—all fear itself was gone. A red and haughty flush spread over his pale face. He had an unfrowning brow and an unconquerable soul. From his attitude, his lip, his eye, he seemed the very embodiment of the valour of his land—at once a hero and a god!

The lion had been kept without food for twenty-four hours, and the animal had, during the whole morning, shown a strange uneasiness, which the keeper thought was due to pangs of hunger. Yet

his behaviour seemed rather that of fear than of rage ; his roar was painful and distressed ; he hung its head—snuffed the air through the bars—then lay down—started again—and again uttered his wild and far-resounding cries. And now, in his den, he lay utterly dumb and mute, with his wide nostrils forced hard against the grating, and disturbing, with his breath, the sand below on the arena.

The keeper, cautiously opened the cage, and the lion leaped forth with a mighty and glad roar of release. The keeper hastily retreated and left the lord of the forest—and his prey.

Glaucus had bent his limbs so as to stand firm at the expected rush of the lion, with his small and shining weapon raised on high, in the faint hope that *one* well-directed thrust (for he knew that he should have time only for *one*) might penetrate through the eye to the brain of his terrible enemy.

But to the great astonishment of all, the lion seemed not even aware of the presence of Glaucus. At the first moment of its release he halted suddenly in the arena, raised himself half on end, snuffing the upward air with impatient sighs ; then suddenly he sprang forward, but not on Glaucus. He circled round and round the space, turning his big head

from side to side with an anxious gaze, as if seeking only some way of escape ; once or twice he tried to leap over the wall that separated him from the audience, and, on failing, uttered rather a baffled howl than his deep-toned and kingly roar. He showed no sign, either of wrath or hunger ; his tail drooped along the sand, and his eyes, though they wandered at times to Glaucus, turned again carelessly from him. At length, as if tired of attempting to escape, he crept with a moan into his cage, and once more laid himself down to rest.

Suddenly a loud cry was heard at one of the gates of the arena ; there was a confusion, a bustle. All eyes turned in wonder towards the direction of the disturbance. The crowd gave way, and suddenly Sallust appeared on the platform, his hair disordered—breathless—heated—half-exhausted. He cast his eyes hastily round the ring. “Remove the Athenian,” he cried ; “haste—he is innocent ! Arrest Arbaces the Egyptian—he is the murderer of Apaecides !”

“It is for this, then, that the lion did not kill him. A miracle ! a miracle !” cried Pansa.

“A miracle ! a miracle !” shouted the people ; “remove the Athenian—*Arbaces to the lion !*”

At the shout, “Arbaces to the lion !” Arbaces trembled, and his cheeks grew pale. But he soon

regained his haughtiness and self-control. Proudly he returned the angry glare of the countless eyes around him.

He stretched his hand on high ; over his lofty brow and royal features there came an expression of solemnity and command.

“Behold !” he shouted with a voice of thunder, which silenced the roar of the crowd—“behold how the gods protect the innocent !”

The eyes of the crowd followed the gesture of the Egyptian, and beheld, with dismay, a vast vapour shooting up from the summit of Vesuvius—a fire that changed its colour every moment, now fiercely bright, now of a dull and dying red, that again shone forth with intolerable glare !

There was a dead silence—through which there suddenly broke the roar of the lion, which was echoed back from within the building by the sharper and fiercer yells of another lion. The lions knew what was coming !

Then there rose on high the terrible shrieks of women ; the men stared at each other, but were dumb. At that moment they felt the earth shake beneath their feet ; the walls of the theatre trembled, and beyond, in the distance, they heard the crash of falling roofs. An instant more and the mountain-cloud seemed to roll towards them, dark and rapid,

like a torrent ; at the same time, it cast forth from its bosom a shower of ashes mixed with big pieces of burning stone ! Over the green vines—over the empty streets—over the amphitheatre itself—far and wide—with many a terrible splash in the disturbed sea—fell that awful shower !

No longer thought the crowd of the justice or of Arbaces ; safety for themselves was their only thought. Each turned to fly—each dashing, pressing, crushing against the other. Trampling carelessly over the fallen—amidst groans, and oaths, and prayers, and sudden shrieks—the huge crowd rushed forth through the many passages. Whither should they fly ? Some, expecting a second earthquake, ran to their homes to load themselves with their more costly goods, and escape while it was yet time ; others, dreading the showers of ashes that now fell fast, torrent upon torrent, over the streets, rushed under the roofs of the nearest houses, or temples, or sheds—shelter of any kind—for protection from the terrors of the open air. But darker, and larger, and mightier spread the cloud above them.

Exercises

1. Who was Arbaces ?
2. Who was Glaucus ?
3. Why did the lion not attack Glaucus ?
4. How did Arbaces save himself ?

CHAPTER XVIII

THE SECRET OF HAPPINESS

Dan and Martha were born and brought up in Cypress City. They played together, went through school almost together—Dan was two years older—and in 1914, after high school, they married.

In those days, you could not have seen anything remarkable about either of them. Martha was pretty but not very beautiful ; Dan was a big strong boy who was attractive without being handsome.

They were not rich. They rented an old cottage near the edge of the town for 20 dollars a month and furnished it with secondhand furniture.

Their cottage did not change at once. Just a little at a time—a few rose bushes, a set of homemade dining-room furniture, a new rug for the bedroom, a vegetable garden. From a tottering old place their home became something that you would look at and say, "That's lovely."

No two young persons could have had more fun or worked harder than Dan and Martha. You could pass there any evening and hear them laughing or singing. When hot weather came,

they would sit on the little porch swing, which Dan had made and Martha had painted, holding hands acting as though they were just keeping company instead of being old married people.

I think a lot of their happiness was due to the fact that they were not jealous of other people and the things they had. Even children—they wanted children, but none came.

When he was a boy Dan had started working at a livery stable (a place where horses are kept for their owners and fed and looked after for a fixed payment) which long ago had become half livery stable and half garage (a place where motor cars are kept and taken care of) and he had kept right on working there. Martha got a job in an office.

Then in 1917 Dan went off to the war. He came back in 1919, much stronger than before, and went back to his former employer, working twice as hard as ever.

I was practising law then in Cypress City and was about as close to Dan and Martha as anybody in town. I used to spend lots of warm evenings sitting on their porch, or cold ones in front of their fireplace, trying to find out the secret of their happiness.

In 1921 a lawyer from New York wrote to me

that Dan had inherited a large sum of money. I called Dan to my office and told him of the windfall.

When I had finished he said, "You're sure?"

"Sure, I'm sure."

"Who else knows about this?" he asked.

"No one. Just you and me and the other lawyer."

"Would anyone have to know about it? Suppose I gave you power of attorney, could you keep the money so that nobody would ever know it belonged to me?"

"Except Martha, you mean."

"No." His eyes met mine steadily. "I mean especially not Martha."

I sat there, unable to understand what he was saying. After a while I said, "Look, Dan. You and Martha have worked hard. You deserve the good things of life, and now you can have them."

"What things?" There was the faintest glint of amusement in his eyes.

"A new house. A car. A lot of pretty clothes for Martha. A modern kitchen. A trip to Europe, perhaps."

"Why?"

"Because those are the things that make life worth living. They make you happy."

"Happier than we are now?"

"Well, I won't say they'll make you happier than you are now, because you've always been the happiest couple I've ever known. But when you have things....."

"We already have them." Patiently, as you would explain to a child, he went on, "Don't think that I am a fool.....I'm just asking. All those things you mention—you say they'll bring us happiness. But we've got happiness already. No, I don't want to throw it away, I have sense enough to know that things can happen—sickness, for example. But unless I or she fall ill and are unable to earn our bread—I don't want it."

"Is that fair to Martha, Dan?"

He smiled and nodded, "I am not worried about her," he said confidently.

I arranged it as he wanted, then sat back and waited for him to change his mind. But it did not happen that way. There were a couple of years when times were pretty hard in Cypress City. But Dan and Martha just went on being as happy as ever.

Then came the boom; two motor cars in every garage, two chickens in every pot. People in Cypress City—like people everywhere else—had more money. ' Dan and Martha also spent their

earnings freely. They repaired their house. They improved the water taps, bought an electric stove, and Martha got some new dresses—but they did it out of the extra money Dan was earning.

When the big depression came, they felt it too—but not as badly as the others. They hadn't flown too high ; their house was paid for, Dan was a partner in the garage now and Martha still had her job in the office. But when the owner of the garage died and left his share of the business to Dan, it doubled his debts without increasing his assets. I asked him why he would not take at least as much money from me as would enable him to pay off his debts, but he shook his head.

"There's an old saying about money not being strong enough to buy happiness," he said. "Did you ever think that under some circumstances money might actually destroy it?"

The depression ended. The town picked up a little. Then World War II came along. Dan tried to get in, but they wouldn't take him.

War contracts, reaching out even into Cypress City brought a booming prosperity, Dan's garage expanded and he started making pretty good money, but he and Martha remained quiet. They bought new things, yes, such as an electric

refrigerator, a radio-phonograph—slowly, and one by one. Dan and Martha were still living happily in their old home.

Then Dan died, suddenly and painlessly, of heart failure. Now the time had come to tell Martha about the money. I waited to let her recover from the shock of Dan's death, and then visited her house.

She was on the porch. I sat beside her and, after a few moments, told her the story. Martha looked surprised. I explained Dan's reasons for not telling her.

When I finished, there was silence. And then Martha asked the question I least expected ; "How soon can I have that money ?"

"You can have it any time," I said, "You could have had it years ago."

She said, "Years ago I had no use for it. Dan and I had everything we wanted." And then she added softly, "Everything except one."

"Yes...?"

"We didn't have a child. Now we can have one."

I was very much surprised. Martha smiled gently and explained : "I suppose you're wondering why—if Dan knew we could afford it—he never suggested that we adopt a baby. Well,

I understand that. You see, neither of us would admit that we could possibly need or want anything more than we could get from each other."

"It will be a girl," she said, "because Dan wanted a daughter. I still have time to bring her up to understand all the things that Dan and I understood so well."

Her expression had changed as she talked. At first her face had shown a courageous resignation. Now there was contentment.

"Even though Dan has gone," she said quickly, "he and I can never be separated. But I've been lonely since he went. Now I won't ever be lonely. God bless Dan. He has always given me everything I wanted."

Exercises

1. Why were Dan and Martha happy ?
2. What did Dan do when he came to know that he had inherited a large sum of money ?
3. Why did Dan not take a portion of the money he had inherited to pay off his debts ?
4. Why did Martha adopt a girl after Dan's death ?
Why was a girl not adopted while Dan was living ?

CHAPTER XIX

BROTHER

It rained heavily for a whole week without a pause, and one pitch dark night the mud wall of a poor man's house yielded to the furious onset of a rain-storm. First the walls and then the roof fell down with a crash and a loud thud, and Narendra's aged mother and little sister were crushed to death under the debris. Narendra was not at home when this tragedy took place. The rains had blocked all the roads, foot-paths, and all the mills and shops were closed down. Narendra had gone out early in the morning to try to get some coal and bread from anywhere at any cost. His little sister had been crying for bread all through the previous night and his old mother had been shivering from cold.

And when he returned home at night empty-handed and sorely disappointed, he found that, touched by his helplessness and repeated failures to help and serve his mother and sister, the ever merciful God had himself taken charge of not only his house but also of his sister and mother !

After a few months Narendra set out from his

home town and arrived at Quetta where he took up a job with a rich banker. His master was very kind and generous to him, so Narendra began to live there comfortably. His duties being over, he would often stand up on the roof of his employer's house and cast a look at the long rows of the houses of Quetta, and in the midst of the hustle and bustle and the mirth and revelry of that big city, he felt a peculiar sadness in his heart.

He felt that he was alone—all alone in the wide, wide world. He was only a working, eating, walking and speaking machine. There was none to be loved by him. He had neither mother, nor sister, nor a relative, nor even a friend. He would often stare at old women passing by, but none would pay any attention to him. He would gaze at little girls playing merrily in the street, but none would run to him and cling to his legs.

One day Narendra was lying on his bed in his room. Suddenly his bed shook so violently that he was startled and looked carefully under his bed. He could not find anything there. Then he noticed that the electric bulb hanging from the roof was swinging, and the windows were rattling loudly. Presently his ears caught a deep rattling and rumbling sound. A moment later a stool on which

he had put his utensils, turned over of its own accord and the utensils fell on the floor with a loud clang. The whole house was shaking violently, and he thought that some monkey was shaking the electric pole that stood on the roof of his house. Suddenly the electric wires, that ran along the street outside his window rocked to and fro, and as one wire touched another he heard a sizzling sound and saw a blue flame leap up towards the sky. Narendra jumped out of his bed and looked out of the window of his bedroom.

There was a loud outcry coming from everywhere. "The earthquake ! the earthquake !" The whole of Quetta was in the grip of a terrible earthquake ! The houses began to heave, and presently there arose a dreadful, deafening noise as if the very heart of the earth had exploded. Tall buildings fell crashing to the ground, roofs began to crack and walls crumbled down like pieces of old, worn out plaster. It looked as if the Last Day had come.

Narendra ran down the staircase. But he had hardly descended a few steps, when the roof over the staircase came down on him with a fearful crash. With great difficulty Narendra checked the downward rush of his body and narrowly escaped

from being crushed under the debris. A loose stone, however, made a deep cut on his shoulder.

The earthquake shocks were still shaking the very foundations of the city of Quetta. Presently a wall of his room cracked, and he saw that it was not safe to remain there any longer. But there was no passage leading down to the ground floor. The next moment the roof of his room crashed. Narendra closed his eyes and jumped through the window. As he fell on the ground, he felt that the bones of his feet had cracked. He was blinded by an unbearable pain. But soon he became aware that a wall was going to crumble over him. So he rose to his feet and ran away from the danger spot as fast as he could. But it was by no means safe to run along the road, because houses were falling on either side and the road was full of a large number of terrified men, women and children.

As Narendra was running for dear life, jumping over heaps of stones, bricks and lime, he imagined that his sister was calling him. But he soon remembered that he was alone in the wide world and no one dear and near to him was left alive. So he pushed on. A moment later he heard somebody calling him, "Brother, brother," in a piteous tone. He stopped and looked behind, but he could not

see any person. Then he looked upwards and saw a woeful sight.

On the balcony of a house there lay an old woman and a girl with parts of their bodies under a heap of stones and loose earth. The poor souls had been crying for help so long that their voices had become hoarse. Narendra guessed what had happened. These unfortunate persons came out of the room on the balcony, and as they were about to jump down into the street below, the back wall came down upon them and they were caught under the debris. The old woman lay unconscious but the girl was crying. The girl cried to Narendra once again, "Brother, will you not save the life of a sister?"

As he heard these words, he suddenly remembered his own sister. She too must have cried for help like that, as she lay buried under the debris, but nobody had paid the least attention to her cries. He said to himself, "I must save this second sister of mine, even if I lose my own life in the attempt. And what if I die? I am alone—absolutely alone." So he looked up at the balcony to find a way to get there. But the earthquake had pulled down the whole house except the front wall with the balcony. The only way to get to the

balcony was to climb over that half-fallen wall and to make that attempt was nothing short of going into the mouth of death. But for all that, Narendra began to scale that tottering wall.

Hardly had he climbed two yards, when the wall swayed violently and in the twinkling of an eye, Narendra lay buried under a heap of debris. In the meanwhile, several persons had collected there. They removed the debris and made him free. As soon as he was free, he made a second attempt to get to the balcony. Though his whole body was badly bruised and bleeding, yet he climbed up the broken wall with courage and skill and at last reached the balcony.

He began to remove the stones and debris lying over the bodies of the old woman and the girl. He was afraid lest the balcony should go down while he removed the debris, because the least motion of his body made the balcony shake like a leaf. At last, after working hard for half an hour, he succeeded in releasing the poor woman and the girl. The people who stood in the street, managed to throw up to him some sheets of cloth to be used as ropes. He tied one end of a sheet round the girl's waist and let her down slowly so that she reached the ground safe and sound. Now it was

the old woman's turn. But it was a very difficult and dangerous task. For one thing, she was unconscious ; and for another, her body was rather heavy. Besides; by that time, Narendra was quite tried. His hands were shaking so violently that he thought he had better leave the old woman where she was. But the piteous cries of the girl, who now stood in the street below, made him change his mind. At last, he tied another sheet round the old woman's waist and made ready to lower her down the balcony.

The lowering of her heavy body caused a violent jerk, which the balcony in its precarious state could not withstand. So, as soon as the body was lowered, the balcony fell down with a terrible crash.

Three months later, when he stepped out of the hospital, Narendra saw that Quetta was like the ruins of a very old city. There was no trace left of his master. He himself had lost one leg. Nor was there any trace of the girl who had addressed him as brother. Once again, he was left alone—absolutely alone—in the wide, wide world !

Exercises

1. What happened to Narendra's mother and sister when he went out ?

2. Why would he look at old women and little girls in the streets ?
3. Why did he imagine that his sister was calling him ?
4. Why did he help the girl and her mother at the risk of his life ?
5. What happened when he let down the old woman ?

CHAPTER XX

THE RED FORT AT DELHI

The Red Fort is an irregular octagon in plan, with its two long sides on the east and west and six smaller ones on the north and south. It measures about one mile and a half in circumference, the total length being some 3,000 feet and the breadth 1,800 feet. On the river front the walls are 60 feet in height, while on the land side they rise to 110 feet, of which 75 feet are above the level of the ground. The ditch is 75 feet wide and 30 feet deep. This ditch had plenty of fish and was surrounded by beautifully laid-out gardens, and the low land to the east, between the Palace and the Yamuna, served as a parade ground and as the arena for the famous elephant fights.

Since the splendid days of Shah Jehan, the Fort has suffered many a cruel change of fortune. In 1719, Emperor Farruksiyyar was murdered here three years after his marriage. His son, Mohammad, mounted the throne. His minister was murdered and the late minister's brother robbed the Peacock Throne of its most precious jewels and the treasury

too. On 9th February 1739, the Persian invader Nadir Shah, attacked Delhi and entered the Fort. He demanded twenty-five million pounds, as the price of the Moghal Emperor's ransom. In order to raise the sum, Mohammad Shah brought out his richest treasures, vast heaps of gold and silver, in coin and bars, thrones, crowns, jewelled vases and plates and finally the famous Peacock Throne. Nadir Shah accepted all these, of course. Then he ordered a massacre of Delhi, when a hundred thousand inhabitants fell to the swords of the Persians. Later on hordes of Jats, Mahrattas and Rohillas deprived the Fort of its remaining treasures. In 1788, it was the scene of a most cruel and hateful deed. The terrible Rohilla leaders, Ghulam Qadir, captured the Fort. He was sure that vast treasures had been buried in the Fort. So he first commanded, then threatened and ultimately tortured the aged Emperor Shah Alam, to show him the hiding place. In vain the poor king protested that none such existed. The ladies of the *harem* were tied up and whipped. His children were dashed to pieces in his very presence. At last the cruel Ghulam Qadir drew his dagger, and struck out the Emperor's eyes, after which he set fire to the Fort and withdrew.

CHHATTA CHAUK (COVERED STREET)

It is the roofed street leading from Lahore Gate to a great court, 200 feet square. The Chhatta Chauk is 263 feet long and 27 feet wide, with a central octagonal court open to the sky. On both sides of the roadway, there are 32 arched cells at first floor and ground floor levels. Here sat the court jewellers, goldsmiths, picture painters, workers in enamel, carpet manufacturers, weavers of rich silks, fine cloths for turbans and makers of *pyjama* girdles ornamented with gold and silver flowers, together with makers of a thousand other beautiful and fashionable articles.

NAUBAT KHANA (BAND HOUSE)

It is about 99 feet long, 68 feet wide and 57 feet high. Its gateway is 29 feet high and 16 feet wide. Five times a day the Royal Band used to play in this lofty hall; on Sundays, the music was kept up the whole day, because it was a day sacred to the sun, and the same honour was paid to the day of the week on which the king was born. The visitor had to pass through its entrance to reach the court of Diwan-i-Am. Through this entrance, none could pass mounted except Princes of the Blood Royal. Ambassadors, ministers and nobles of the highest rank had to get down here and walk on foot.

DIWAN-I-AM (HALL OF PUBLIC AUDIENCE)

It stands on a plinth about 4 feet high. It is 80 feet long, 40 feet wide and 30 feet high. Its original covering of white shell plaster and gilding is lost. The building is open to the north, west and south. The inside of the central hall was divided by columns into three parts, each part containing nine apartments, each apartment being formed by four pillars, about 16 feet apart.

JHAROKA (RECESS)

Commanding the body of the hall, a few feet above the floor level, the back wall opens to display a white marble recess, 20 feet wide. It is protected by a finely carved marble balustrade. Its interior is panelled with small squares of black marble, the only example of its kind in India. These are wonderfully inlaid with precious stones, such as jade, agate, lapis and lazuli.

DAILY DARBAR

When the signal was given all conversation was stilled and movement stopped. Everyone present, from prince to peasant, assumed an attitude of profound humility and stood up with bent head, downcast eyes and hands crossed upon the breast. Be it said to Shah Jehan's credit that he had abolished the humiliating custom of kissing the earth at the approach of the Emperor. The music

in the Royal Drum House grew louder still. All at once the flowered curtains parted and the dazzling figure of the mighty Mughal appeared in the recess like a picture on the wall. The Great Mughal sat upon a large chair of solid gold, the birds decorating it shone with diamonds, pearls, sapphires, rubies and emeralds. The Emperor's dress consisted of a white satin tunic, heavily embroidered in a raised design of coloured silk flowers outlined in gold. The turban consisted of gold cloth. And on its front was fastened a jewelled bird resembling a heron, set with diamonds of extraordinary size and value, one large yellow stone, said to be priceless, shining like a small sun. A collar of great pearls fell from throat to waist. At either side of the Emperor, stood princes of the royal blood, while splendidly dressed servants waved peacock fans to cool the air and keep off flies.

HAYAT BAKSH BAGH (LIFE BESTOWING GARDEN)

This Paradise like Hayat Baksh Bagh, by the display of its beautiful flower beds, various green pants, flowers and running water channels, was the finest garden. The lovely trees of various kind were so interlaced with one another that the sky was not visible anywhere underneath them. The tank in its centre, 60 yards square, shone like a bright mirror, and it was decorated with 49 silver jets, besides

112 more, playing round it. At its left and right sides were two charming pavilions SAWAN and BHADON. In the niches, flower vases of gold and silver, full of golden flowers, were placed during the day time, and at night, white wax candles, which appeared like stars in the clouds, were lighted and placed inside the veil of water. Beyond the Hayat Baksh Bagh stretched the Mehtab Bagh (Moonlight Garden), now the Barrack Square.

SHAH BURJ (ROYAL TOWER)

It lies on the north-east corner of the Fort facing the Yamuna. The Marble pavilion, on its south front, was a thing of singular beauty. It was from the window of this Tower that the Heir-apparent, Prince Jawan Bakht escaped in 1784 and fled to Lucknow to inform the newly arrived British Governor, of the disorderly state of affairs at Delhi.

NAHR-BIHIST (STREAM OF PARADISE)

This tiny channel ran right along the centre of the buildings on the east and north sides, sometimes flowing under portions of marble flooring, sometimes welling up into marble basins. Rippling over the marble it added to the soft sweetness of the buildings and to their coolness in the hot days.

DIWAN-I-KHAS (HALL OF PRIVATE AUDIENCE)

The Hall is 90 feet long, 67 feet wide and stands

on a plinth $4\frac{1}{2}$ feet high. Its ceiling is flat and supported by five arches. The central chamber is 48 feet long and 27 feet wide. The marble dais, which formerly stood in this central chamber, is said to have supported the famous Peacock Throne of Shah Jahan. Over the arches at the north and south ends of this central chamber, one can read the famous Persian verse :—

“If there is a paradise on the face of the earth, it is this, it is this, it is this.”

It is connected more closely than any other building with the history of the Mughal Empire. It was here in 1739 that Nadir Shah received the humble submission of his unhappy and unwilling host, Mohummud Shah, and robbed him of his most valuable treasures. It was here in 1757 that Ahmed Shah Durrani looted further treasures and among other plunder, took back with him a Mughal Princess as consort. It was here in 1788 that the terrible Rohilla leader Ghulam Qadir blinded the Emperor Shah Alam and then asked him in mockery what he could see, whereupon the Emperor replied, “Nothing except the holy Quran between you and me.” It was here in 1803 that the blind Emperor Shah Alam received his rescuer Lord Lake, thanked him for saving the tottering Empire from the House of Scindia and conferred upon him high

sounding titles. It was here again in May 1857 that Bahadur Shah II was proclaimed once more the Emperor of Hindustan. Who could have imagined that seven months later, he was to be tried in the self-same hall for his very life !

Exercises

1. What do you know of the size and location of the Fort ?
2. What misfortunes has it suffered since the days of Shah Jehan ?
3. Which do you like better, Diwan-i-Am or Diwan-i-Khas ?
4. What cruel deed was done by Ghulam Qadir ?
5. What did Nadir Shah do ?
6. What did Ahmad Shah Durrani take away ?
7. Which part of the Fort do you like best ? Give reasons.
8. How is the Diwan-i-Khas more closely connected with the history of the Mughals ?

NOTES

Chapter I

VASCO DA GAMA

[Vasco Da Gama (1469—1524), was a great Portuguese navigator. He was the first whiteman to sail round the Cape of Good Hope in 1497 and sail to India.]

P. 1, L. 14 : *stormy*—rough, windy.

L. 18 : *turning-point*—the point at which a decisive change occurs.

P. 2, L. 6 : *came in sight of*—saw.

landing—disembarking ; going on shore.

P. 4, L. 21 : *picked out*—selected.

L. 27 : *made great fun of them*—ridiculed them ; laughed at them.

Chapter II

DAVID LIVINGSTONE

[David Livingstone (1813—1873), the great African missionary and explorer, embarked for the Cape of Good Hope in 1840. He made a number of journeys into the interior in the following years, discovered Lake Nagami in 1849, and the Zambezi in the interior of the continent in 1851. Livingstone published 'Missionary Travels in South Africa' in 1857, and 'The Zambezi and its Tributaries' in 1865. In that year he started on an expedition to discover the sources of the Nile, returned almost dying to Ujiji, where he was rescued by H. M. Stanley. After

some time he resumed his explorations, and finally died in a village in the country of Ilala.]

P. 7, L. 16 : *sportsmen*—hunters.

L. 21 : *chief*—king, ruler.

P. 10, L. 6 : *the heart of Africa*—the inner parts of the continent of Africa.

L. 15 : *gorge*—defile ; narrow opening.

L. 19 : *navigable*—deep and wide enough for ships or boats to sail on.

P. 11, L. 4 : *consul*—state agent living in a foreign town and protecting subjects there.

P. 12, L. 13 : *heavily bound*—bound with strong and heavy chains.

P. 13, L. 3 : *slave raiding*—attacking villages to enslave the villagers.

L. 4 : *better off*—more prosperous.

P. 15, L. 1 : *he was in hell*—he felt very sad and miserable.

L. 6 : *slavers*—those who bought and sold slaves.

Chapter III

LOUIS PASTEUR

[Louis Pasteur (1822-1895), was a famous French chemist and biologist. He was the founder of the science of bacteriology, and the discoverer of the method of inoculation for hydrophobia.]

P. 17, L. 14 : *superstition*—opinion based on irrational fear of the unknown.

L. 17 : *turn into*—change into.

L. 21 : *linen*—under-garments of flaxen fabric.

P. 18, L. 2 : *develop*—grow.

L. 10 : *went bad*—were spoiled.

- P. 18, L. 11 : *discover*—find out.
 L. 13 : *living organisms*—small animals.
 L. 19 : *flavour*—taste.
 P. 19, L. 6 : *wiped out*—destroyed ; ruined.
 P. 20, L. 1 : *broke into a wild cheer*—clapped their hands with great joy ; saluted with cheers.
 L. 7 : *infectious diseases*—diseases which are liable to be transmitted by air or water.
 L. 7 : *evil spirits*—ghosts.
 P. 22, L. 2 : *Institute*—A building used by a scientific society.
 L. 18 : *chapel*—a private church.

Chapter IV

THOMAS ALVA EDISON

[Thomas Alva Edison (1847—1931), was a famous inventor. His first patent was taken out in 1868, followed by a number of inventions, among others one that contributed to the Bell telephone. His most important inventions were the 'phonograph', or gramophone, in 1877, and the electric lamp in 1879.]

- P. 23, L. 8 : "*queer*"—eccentric.
 L. 11 : *lost patience*—became angry.
 L. 17 : *he had his way*—got what he wanted.
 L. 19 : *ahead*—in advance.
 P. 25, L. 11 : *bewildered*—astonished ; surprised.
 L. 15 : *patent*—Government grant of exclusive privilege of making or selling a new invention.
 P. 26, L. 4 : *crucible*—melting-pot.
 P. 27, L. 9 : *pasty*—paste like.
 L. 18 : *conduct*—pass.

P. 29, L. 23 : *portable*—that can be easily carried from place to place.

P. 30, L. 2 : *peep show*—A small exhibition of pictures seen through a lens in a small hole.

Chapter V

THE STORY OF THE SEWING MACHINE

[We have become so much used to the sewing machine that we cannot think of the time when all sewing was done by hand, and most of it by poor women, called “needlewomen.” This chapter tells you how the brave inventors struggled and suffered to produce the sewing machine for us. They also were the benefactors of mankind.]

P. 33, L. 25 : *this new “enemy”*—the sewing machine, which was depriving poor tailors of their livelihood.

L. 26 : *wrecked*—broke up ; damaged ; destroyed.

P. 34, L. 3 : *the year of “Revolution”*—the year in which several political disturbances took place.

P. 36, L. 5 : *pawned*—pledged.

L. 14 : *the tide of his fortune turned*—the goddess of Fortune became favourable to him ; he became lucky.

Chapter VI

THE WONDERS OF COAL-TAR

[Coal-tar is the most wonderful substance in the world. It gives us the colours with which we dye our clothes, dainty perfumes, flavouring extracts, fountain-pens, gramophone records, and a thousand other things of everyday use.]

P. 38, L. 15 : *nuisance*—something offensive or troublesome.

P. 39, L. 2 : *dyes*—colours.

L. 2 : *disinfectants*—medicines that kill harmful germs.

L. 23 : *to deaden*—to make insensible to pain.

P. 40, L. 9 : *cane sugar*—sugar made from the juice of sugar-cane.

L. 22 : *amber*—yellow transparent fossil resin ; अम्बर ।

Chapter VII

A JUNGLE TRAIL

[Here is a description of a trail (a beaten path through a wild mountainous region) in America, which enables hundreds of men and women to gratify their love of adventure and spend their vacation at a very low cost. Should we not make such trails in the Himalayans ?]

P. 42, L. 1 : *couple*—husband and wife.

L. 15 : *rucksack*—a bag slung by straps from both shoulders and resting on the back for carrying walker's or climber's necessities ; पीठ-बैग ।

P. 43, L. 23 : *they were in good training*—they became accustomed to climbing.

L. 24 : *but why push themselves*—they had no need to walk fast.

Chapter VIII

THE MARCH OF AN ARMY OF ANTS

(This story proves clearly that little animals and insects are endowed with intelligence. The exploits of these tiny ants will appear all the more wonderful if we bear in mind the fact the ant is totally blind !)

P. 48, L. 17 : *pincer jaws*—jaws which were like pincers. *pincers*—मोचना ; संसी ।

P. 48, L. 21 : *officers*—this army of ants had its officers, scouts, sentries, guards, etc.

L. 22 : *feelers*—antennae ; two long hair at the head of an ant and other insects.

P. 49, L. 18 : *acute*—keen.

P. 50, L. 4 : *fell into line*—formed a long line.

L. 22 : *shocked*—frightened.

Chapter IX

AN ADVENTURE WITH A LARGE SNAKE

[The anaconda is a large snake that crushes its prey before swallowing it. It is found chiefly in South America and Ceylon.]

P. 56, L. 1 : *hypnotise*—make sleepy or motionless.

L. 15 : *full of devils*—very tricky and wicked.

P. 57, L. 4 : *nest*—an animal's abode.

L. 9 : *noose*—सरक फन्द ।

L. 15 : *got the better of me*—outwitted me ; overpowered me.

L. 27 : *submarine*—under-water.

P. 60, L. 5 : *expansible*—that can be expanded or enlarged.

Chapter X

THE FIRST NON-STOP ATLANTIC FLIGHT

[Here is a thrilling account of two brave airmen who flew across the Atlantic Ocean without landing at any place on the way.]

P. 61, L. 1 : *developed*—made progress.

L. 7 : *trip*—journey.

P. 62, last line : *cosy*—comfortable.

P. 63, L. 3 : *No wonder*—It was not surprising that.

- P. 63, L. 6 : *Fury*—goddess of vengeance.
 P. 64, L. 17 : *Martians*—inhabitants of the planet, called Mars.

Chapter XI

THE ATTACK ON MOUNT EVEREST

[Mount Everest is the highest mountain peak in the world. It stands up as a challenge to man's courage and power of endurance. Many brave climbers have tried to reach its top, but no one has succeeded so far.]

- P. 66, L. 5 : *in reserve*—liable to be used in emergency.
 L. 8 : *to rush*—climb with a rapid dash.
 L. 24 : *in sight*—near at hand.
 P. 67, L. 11 : *pyramid*—a cliff that looked like a pyramid.
 L. 15 : *gully*—water-worn ravine.
 L. 22 : *went snow-blind*—became blind on account of the reflection of snow.
 P. 68, L. 18 : *fallen to their doom*—fallen hundreds of feet below and died.
 L. 23 : *closed*—put an end to.
 P. 69, L. 3-4 : *Head Lama again blessed the climbers*—The Head Lama has blessed each party of climbers, but his blessings have proved useless so far.

Chapter XII

THE PINDARI GLACIER

[A Glacier is a slowly moving river or mass of ice formed by the accumulation of snow on a high ground.]

- P. 72, L. 19 : *terraced fields*—small fields rising behind and above each other.
 P. 74, L. 8 : *weary*—tiresome.
 L. 14 : *fancy*—imagination.

P. 74, L. 25 : *piping*—singing.

P. 75, L. 5 : *snow-drift*—a driving mass of snow accumulated by the wind.

L. 21 : *the snout*—pointed front or the nozzle of the glacier.

P. 76, L. 8 : *imposing*—impressive.

P. 77, L. 10 : *petty mortals*—insignificant human beings.

L. 17 : *frantically*—madly.

Chapter XIII

A VISIT WITH MAHATMA GANDHI

[Louis Fisher, the author of this charming article is a great American friend of India and admirer of Mahatma Gandhi. He is one of the greatest writers of today.]

P. 79, L. 8 : *the biggest thing*—the greatest man.

L. 15 : *cabled*—transmitted by cable (submarine or underground telegraph lines.)

P. 81, L. 7 : *dollar watch*—a watch whose price is one dollar. A dollar is equal to 4s. 1½d.

P. 82, L. 7 : *A spectacle*—An object of public attention ; a public show ; तमाशा ।

L. 23 : *slum*—a dirty street or court or alley in a city.

P. 83, L. 5-6 : *he is one with the untouchables*—he is a Harijan or untouchable.

Chapter XIV

LORD SHAFTESBURY

[Anthony Ashley Cooper Shaftesbury, was the seventh Earl of Shaftesbury (1801—1885). He took keen interest in many movements for the protection of the working classes and the benefit of the poor.]

P. 89, L. 11 : *drove*—compelled.

P. 90, L. 3 : *lot*—condition.

P. 93, L. 2 : *hung back*—hesitated.

L. 21 : *benevolent*—generous ; charitable.

P. 94, L. 15 : *scrap of black*—a black band tied over the arm as a sign of mourning.

Chapter XV

RANA RAJ SINGH

[Rana Raj Singh was a worthy descendant of Maharana Pratap. He defeated Aurangzeb in many battles and once even spared the life of the bigoted Mugal. When Aurangzeb imposed *jezia* on all Hindus, Rana Raj Singh wrote him a letter which for the grace and dignity of its style and the lofty yet temperate resolution which characterises its tone, will be remembered for ages to come.]

P. 97, L. 1 : *the prize*—i.e., the princess of Rupnagar.

L. 19 : *indefensible*—that which cannot be defended.

L. 23 : *primitive*—aboriginal.

L. 25 : *Hindupat*—the honour of the Hindu nation.

P. 98, L. 7. *defile*—a narrow pass.

L. 14 : *progress*—advance.

L. 15 : *isles*—islands.

L. 19 : *was upon them*—fell upon them, attacked them.

P. 99, L. 22 : *onset*—attack.

L. 23 : *franks*—Europeans.

P. 100, L. 4 : *recalled*—called back.

L. 6 : *importance*—prestige.

Chapter. XVI

DON QUIXOTE

[Don Quixote, a poor gentleman of La Mancha, a man of amiable character, had his wits disordered by devotion to tales of chivalry, and imagined himself called upon to roam the world in search of adventures, on his old horse (Rosinante), accompanied by his squire, the rustic Sancho Panza. He was involved in the most absurd adventures with distressing consequences to himself. Finally one of his friends disguised himself as a knight, overthrew Don Quixote, and required him to abstain for a year from chivalrous exploits. This period Don Quixote resolved to spend as a shepherd, living a pastoral life, but falling sick on his return to his village, after a few days he died.]

P. 101, L. 14 : *armour*—coat of mail, कवच

L. 18 : *laboured*—exerted himself.

P. 102, L. 8 : *recall*—remember.

L. 12 : *dismount*—unhorse ; throw down from horseback.

L. 12 : *ungentle*—rude ; churlish.

P 103, last line : *ye shall pay for it*—you will be punished for it.

Chapter XVII

THE LAST DAYS OF POMPEII

[The Last Days of Pompeii, a novel by Bulwer Lytton (1834). The scene is laid at Pompeii, shortly before its destruction, and deals with the love of two young Greeks, Glaucus and Ione, and the villainous designs of Arbaces, the girl's guardian, who is enamoured of his ward. The work gives an interesting picture of Roman life at the time of the catastrophe (A.D. 79).]

P. 108, L. 17 : *embodiment*—incarnation.

L. 21 : *a strange uneasiness*—a mysterious restlessness, because the lion knew by instinct that the earthquake was about to occur.

P. 109, L. 13 : *the lord of the forest*—the lion.

L. 13 : *his prey*—i.e., Glaucus.

L. 25 : "*Arbaces to the lion*"—Throw Arbaces to the lion.

P. 111, L. 5 : *royal features*—kingly face and form.

P. 112, L. 4 : *amphitheatre*—A circular building, with seats rising behind and above each other, round a central open space.

Chapter XVIII

THE SECRET OF HAPPINESS

[Here is a story of a man and his wife who lived a happy life, though they were poor and without children. Their life was happy, because they were not jealous of other people.]

P. 113, L. 16 : *tottering*—shaky ; weak.

L. 20 : *fun*—enjoyment.

P. 114, L. 5 : *a lot of*—a good deal of.

L. 8 : *came*—was born.

P. 115, L. 2 : *windfall*—unexpected fortune.

L. 19 : *glint*—flash ; sparkle.

P. 116, L. 11 : *sense*—intelligence.

L. 15 : *fair*—just.

L. 24 : *boom*—sudden development of trade.

P. 117, L. 5 : *depression*—slump ; sudden fall in trade activity.

L. 6-7 : *they hadn't flown too high*—they had not become extravagant.

Chapter XIX

BROTHER

[Here is an eye-witness account of the terrible Quetta earthquake of 1935, woven around a touching story of a brother's love for his sister.]

P. 120, L. 3 : *onset*—attack.

L. 8 : *tragedy*—disaster.

L. 17 : *touched*—moved to pity.

L. 19 : *ever merciful*—note the irony.

P. 121, L. 21 : *startled*—surprised.

L. 22 : *noticed*—saw.

L. 25 : *presently*—soon ; after a short time.

Chapter XX

THE RED FORT AT DELHI

[This chapter gives a brief account of the past glory of the Red Fort at Delhi and the cruel changes of fortune it has suffered since the days of Shah Jehan.]

P. 129, L. 4 : *ransom*—sum of money paid for the release of a prisoner of war.

L. 5 : *to raise*—to procure.

L. 10 : *massacre*—general slaughter.

L. 12 : *hordes*—gangs ; troops.

P. 131, L. 2 : *plinth*—projecting part of a wall immediately above the ground.

L. 14 : *balustrade*—balcony.

L. 21 : *stilled*—hushed ; stopped.

L. 23 : *profound*—deep.

P. 133, L. 13 : *singular*—rare.

L. 24 : *added to*—increased.

P. 134, L. 14 : *submission*—homage.

L. 19 : *consort*—wife.

P. 135, L. 5 : *tried*—subjected to trial by a court of law.

